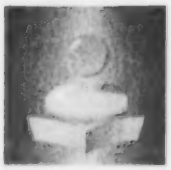
Catalogue no. 81-595-MIE — No. 041
ISSN: 1711-831X
ISBN: 0-662-43183-9

Research Paper

Culture, Tourism and the Centre for Education Statistics

Health Human Resources and Education: Outlining Information Needs



by Mary K. Allen, Rita Ceolin, Sylvie Ouellette, Johanne Plante and Chantal Vaillancourt

Culture, Tourism and the Centre for Education Statistics Division
2001 Main Building, Ottawa, K1A 0T6

Telephone: 1 800 307-3382 Fax: 1 613 951-9040

Statistics Canada Statistique Canada

Canada

106-05254/

How to obtain more information

Specific inquiries about this product and related statistics or services should be directed to: Client Services, Culture, Tourism and the Centre for Education Statistics, Statistics Canada, Ottawa, Ontario, K1A 0T6 (telephone: (613) 951-7608; toll free at 1 800 307-3382; by fax at (613) 951-9040; or e-mail: educationstats@statcan.ca).

For information on the wide range of data available from Statistics Canada, you can contact us by calling one of our toll-free numbers. You can also contact us by e-mail or by visiting our website.

National inquiries line	1 800 263-1136
National telecommunications device for the hearing impaired	1 800 363-7629
Depository Services Program inquiries	1 800 700-1033
Fax line for Depository Services Program	1 800 889-9734
E-mail inquiries	infostats@statcan.ca
Website	www.statcan.ca

Information to access the product

This product, catalogue no. 81-595-MIE, is available for free. To obtain a single issue, visit our website at www.statcan.ca and select Our Products and Services.

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service that its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1 800 263-1136. The service standards are also published on www.statcan.ca under About Statistics Canada > Providing services to Canadians.

Culture, Tourism and the Centre for Education Statistics
Research papers

Health Human Resources and Education: Outlining Information Needs

Mary K. Allen, Rita Ceolin, Sylvie Ouellette, Johanne Plante and Chantal Vaillancourt
Statistics Canada

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2006

All rights reserved. The content of this publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it is done solely for the purposes of private study, research, criticism, review, newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, name of product, catalogue, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopy, for any purposes, without the prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

April 2006

Catalogue no. 81-595-MIE2006041

Frequency: Occasional

ISSN 1711-831X

ISBN 0-662-43183-9

Ottawa

Cette publication est disponible en français (nº 81-595-MIF2006041 au catalogue)

Statistics Canada

Acknowledgements

The assistance of many people was invaluable to the development and production of this information needs outline. The authors particularly wish to thank Health Canada and the few hundred people who gave of their time during the consultations and the revision of the document. A special thank you is extended to Danielle Baum for her indispensable help in preparing the manuscript for publication.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Catalogue no. 81-595-MIE2006041

Table of contents

Acknowledgements	4
1. Introduction	6
2. The Health Human Resources and Education conceptual framework	8
3. The Health Human Resources and Education information needs outline	11
4. Information needs by occupation and jurisdiction	14
5. Structure of the Health Human Resources and Education information needs outline	16
Before, During and After components of the outline	16
Structural sub-components of the outline	16
Cross-cutting dimensions, factors and issues	19
6. Summary information needs outline	22
7. Detailed information needs outline	24
8. Discussion on terms used in this document	51
References	64
Appendix 1: List of consulted ministries/departments, groups, associations and educational institutions	65
Appendix 2: Health human resources conceptual framework	70
Appendix 3: Priorities emerging from consultations	71
Endnotes	74
Cumulative Index	75

1. Introduction

There has been much talk recently about looming shortages in Canada's supply of individuals working in health occupations.[1] For years, the supply of these workers has been characterized by "boom and bust" cycles. At times, planners have perceived an oversupply of individuals working in some health occupations and, at other times, a shortage. Cycles such as these are typical of markets where there are lags between when decisions are made – such as increasing medical school enrolment – and when the impacts of these decisions become apparent. Policy makers now recognize that smoothing out these cycles requires improved coordination and an enhanced evidence base for human resources planning in health (Cesa and Larente 2004).

In Canada and internationally, a great deal of work is being done to monitor and to understand the degree to which the supply of workers in health occupations is meeting (and will meet) the health needs of the population. A common theme throughout this work is the need for new and improved data for monitoring health human resources and to build models for health planning. In Canada, a health human resources (HHR) strategy has been developed from the work done by the Commissioner Roy Romanow, the Senate Committee chaired by Michael Kirby as well as both the 2003 First Ministers' Accord on Health Care Renewal and the First Ministers' Meeting (FMM) 2004 communiqué.

The issues in health human resources management are complex. Teams at the national, provincial/territorial and sub-provincial/territorial levels are working to understand the factors that influence/impact health human resources management in Canada.

The Health Human Resources and Education (HHRE) project

In 2004, as part of the work coordinated through the Advisory Committee on Health Delivery and Human Resources (ACHDHR), Health Canada contracted the Centre for Education Statistics at Statistics Canada to study the interface between education and training and the supply of entrants into health occupations. Through research and consultation, Statistics Canada was asked to investigate the availability of data to measure the infrastructure of health programs in educational institutions and the flow of individuals through these programs and into health occupations. Statistics Canada will also work to identify gaps in data and recommend strategies to fill these gaps and meet data needs.

Catalogue no. 81-595-MIE2006041

This document marks the first stage in this project. Based upon nation-wide consultations, it lays out a conceptual framework and outlines a set of questions about health education, the individuals pursuing health education, the flow of individuals through health education, and the factors which affect that flow. The outline will enable the identification of information that is needed to support efficient and effective decisions and policies about health education programs and health human resources management.

The next stage in this project will be the identification of existing datasets related to HHRE with the long-term goal of developing information sources to address these questions.

Consultations for the Health Human Resources and Education (HHRE) project

In February and March 2005, Statistics Canada consulted with provincial and territorial health ministries/departments and a variety of national health and education associations to establish information needs and priorities. This consultation process was completed with a symposium on March 30, 2005 to confirm and explore the issues raised throughout the initial consultation process.

From April to October 2005, additional consultations were carried out in all provinces and territories with ministries/departments (both education and health) and postsecondary institutions offering health education programs. These consultations were aimed at understanding the context specific to different jurisdictions as well as to collect information on health education programs and on existing jurisdictional level data sources and analysis related to the topic. The framework outlined in this document is based upon the questions and comments heard in the consultation.

For a list of consulted educational institutions, groups, associations and ministries/departments, please refer to Appendix 1.

2. The Health Human Resources and Education conceptual framework

In order to present the information needs identified through the HHRE consultation in a meaningful way, a HHRE conceptual framework was developed to define the limits and provide a structure to the information needs related to health education.

The work of this project is designed to fit within the broader framework for health human resources management outlined by O'Brien-Pallas, Tomblin Murphy (see Appendix 2) as well as the Canadian Institute for Health Information's work on minimum data sets for health human resources management (Tomblin Murphy, O'Brien-Pallas and the Canadian Institute for Health Information 2005). The HHRE project focuses solely on the role of the education system in overall health human resources management. The HHRE framework (see Figure 1) is designed to show the general relationships between the education system and the health labour market, showing the generic flows of individuals through educational institutions and into the health labour market. Many detailed flows and activities are not specified here, but are assumed within the framework. This is particularly true of the multiple pathways in and out of postsecondary education.

Each box represents generic institutions or institutional processes: Postsecondary health education, Recognition (and assessment), Licensure or Registration, and the Health labour market. These are intended conceptually. For example, within the Postsecondary education box are conceptually **all** Canadian postsecondary institutions providing health-related education. The movement of individuals between educational institutions, between programs, or into graduate studies, occurs within this box.

The flows between boxes (indicated with a tringle) describe generic movements rather than specific pathways. In general, therefore, the framework outlines the route from aspiring to a health career, to training, graduation, entry into the labour market, and possible reintegration back into educational institutions as a student, educator or researcher.

In order to measure the main flow of individuals through education and into the health labour market, it is important to identify how all of these flows (and the leakages implied by some of them) influence the supply of new entrants into health occupations.

Major overarching concepts that describe these flows and the issues related to them are listed to the right of the figure (i.e. interest/aspirations, recruitment, access, capacity, infrastructure, etc.). These are generic content areas that provide a basic structure to the information needs outline (presented in the following section). The ones presented in the framework are not intended to be exhaustive. For example, issues related to educator shortages are not clearly encompassed by these concepts, although they are related to the flow of health workers back into educational

institutions and somewhat to the infrastructure concept (see Figure 1). Moreover, there are a number of cross-cutting or overlapping concepts and issues related to a number of these concepts (such as questions of gender, geographic variation, etc.) which will be discussed separately as additional dimensions of the information needs outline.

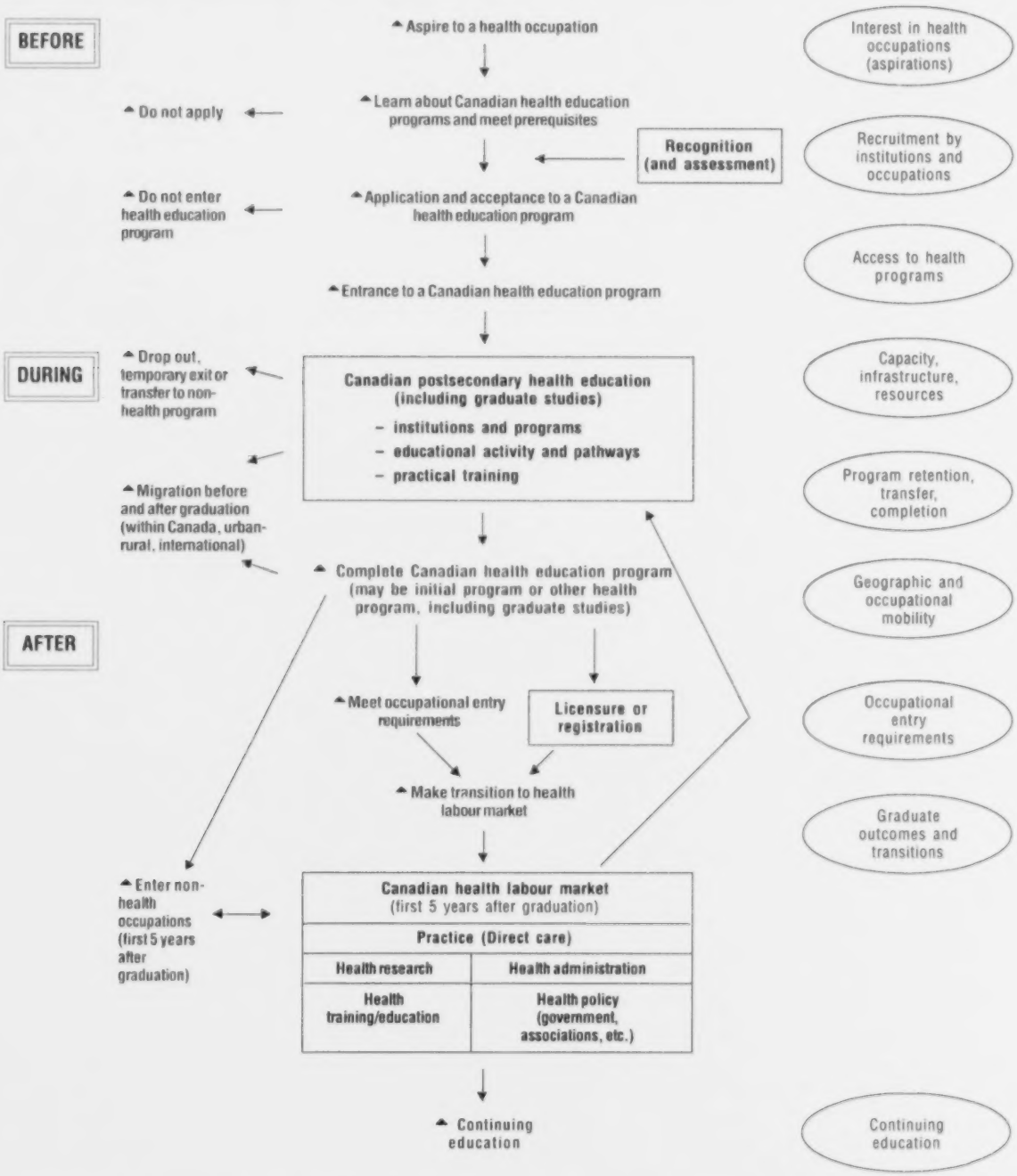
Health Human Resources and Education (HHRE) conceptual framework and information needs outline

It should be emphasized that the items in the framework and outline are driven by information **needs** rather than actual available information. In some cases, the information needed is neither available nor even measurable. By taking a "needs" approach to outlining information, however, the project will be able to identify data gaps – areas where there is no information available. It ensures that the development of an information database for HHRE is not driven solely by available information, but instead can take a broader, more complete perspective.

Moreover, the outline is not limited to needs which can be addressed with numbers only. Instead, the "information needs" include questions which might be addressed with data such as indicators and rates, as well as those which require qualitative or descriptive information or even analytical studies. In this way, the HHRE information needs outline structures a "wish list" of information required to fully understand the movement of individuals through health education and into health occupations.

The framework and outline are presented in a generic format. To varying degrees information is needed by occupation and by province or territory. In some cases, national level analysis may be adequate. In others, specific information for detailed occupations within provinces or territories is desirable. The level of information ultimately compiled in later phases of the HHRE project will be determined by the nature of the question, by the nature of available data, and by the occupation.

Figure 1
Health human resources and education (HHRE) conceptual framework


BEFORE
Aspire to a health occupation
Interest in health occupations (aspirations)
Do not apply
Learn about Canadian health education programs and meet prerequisites
Recognition (and assessment)
Recruitment by institutions and occupations
Do not enter health education program
Application and acceptance to a Canadian health education program
Access to health programs
Entrance to a Canadian health education program
DURING
Drop out, temporary exit or transfer to non-health program
Canadian postsecondary health education (including graduate studies)
- institutions and programs
- educational activity and pathways
- practical training
Capacity, infrastructure, resources
Migration before and after graduation (within Canada, urban-rural, international)
Program retention, transfer, completion
Complete Canadian health education program (may be initial program or other health program, including graduate studies)
Geographic and occupational mobility
AFTER
Meet occupational entry requirements
Licensure or registration
Occupational entry requirements
Make transition to health labour market
Graduate outcomes and transitions
Enter non-health occupations (first 5 years after graduation)
Canadian health labour market (first 5 years after graduation)
Practice (Direct care)
Health research
Health administration
Health training/education
Health policy (government, associations, etc.)
Continuing education
Continuing education

Catalogue no. 81-595-MIE2006041

3. The Health Human Resources and Education information needs outline

The HHRE conceptual framework defines the scope of the HHRE project and provides a structure for gathering and disseminating information related to health education. Having defined the limits of the HHRE framework, the next stage in developing an information base was to identify the information needs related to HHRE. These information needs were largely based upon consultations made with a variety of stakeholders during 2005. They are presented here and structured within the context of the framework as an "information needs outline."

This outline presents the HHRE information needs in the form of questions structured according to the framework. The first level of the outline reflects the "flow" structure of the framework, dividing information needs into "before," "during" and "after" health education. The next levels of the outline then structure the questions into key concepts and sub-concepts. For example, one key concept is "health education programs" which is then divided into concepts such as "characteristics of programs," "admission requirements," or "educators" - all categories of information which describe health education programs.

While the framework and outline impose a specific structure on the questions, the HHRE information needs outline is adapted to incorporate a number of possible perspectives. The structure distinguishes between information about **programs** and information about **individuals**. It also reflects the need for **basic information** about programs and individuals as well as the **factors** related to HHRE flows. In this way it incorporates questions about health education, the individuals pursuing health education, the flow of individuals through health education, and the factors which affect that flow.

Institution- or program-based vs. individual-based information needs

There are generally two main perspectives to analysing educational pathways which are incorporated into the information needs outline. These are a) an institution- or program-based approach, and b) an individual-based approach.

Much statistical analysis of education systems is based on administrative data which focuses on describing institutions and programs. From this perspective, the unit of analysis (what we want to describe) is the institution or program. Types of information related to programs are: length of program, method of instruction, funding and costs, number of educators, and attrition (or retention) rates.

With the availability of student-based survey data, some education analysis has turned its attention to individuals as the unit of analysis. From this individual-based perspective, information is needed about equitable access to education,

successful pathways through education, students' educational costs and activities, and persistence (how many students persist in their studies even if they change programs or institutions).

To the greatest extent possible, the HHRE information needs outline incorporates both of these perspectives acknowledging that, while the one goal of policy makers may be to ensure the success of individuals in the education system (whether they stay in one institution or not), there is also a need for program-based information which monitors the efficiency and effectiveness of the institutions and programs themselves. The HHRE outline includes information needs related to both approaches. This is most noticeable, as described above, in the "During education" section of the outline. A particular example relates to practice education: there are questions related to the administration of the placements and the clinical sites (program-based), but there are also questions related to the experience itself (individual-based). Similarly, in the "After education" section, institution-based information includes information on occupational entry requirements (which would come from regulatory bodies), while individual-based information includes the qualifications of individuals entering occupations.

Factors vs. barriers/limitations related to health education

Throughout the outline are sections of questions referred to as "factors," "barriers," or "limitations" related to the flow of individuals into, through and out of health education. Because this is a critical generic question related to the project overall, these questions are repeated for each major section. For example, there are questions about "factors related to interest" in the Interest in health occupations (aspirations) section, and there are other questions about "factors related to application" and "barriers to entry" into health education programs in the Application, acceptance and decision to enrol in health education programs section.

In the outline, an important distinction is made between "factors" related to flows and "barriers" or "limitations" affecting flows. Factors are defined as those characteristics of individuals or institutions which are correlated with the outcome of interest, but which do not necessarily have a causal relationship with that outcome. These could be personal characteristics (individual, family-related, academic, geographic, previous work experience, volunteerism, school engagement, etc.), characteristics of the occupation (perception of health occupations, work conditions, educational requirements, etc.) and characteristics of the health education programs (tuition, study load, length and structure, debt load, method of instruction, etc.) "Barriers" or "Limitations," on the other hand, are actual or perceived obstacles which prevent participation. In order to discuss a factor as a barrier requires some evidence that it may cause or prevent an outcome. For example, gender is strongly related to participation in health education. Women are far more likely than men to be interested in and to pursue health education. However, being male is not generally considered a "barrier" to entry. Identifying actual or perceived "barriers" usually requires data based on direct questions such as "what **prevented** you from entering the program of your choice?" Likewise, financial support is not a limitation to enrolment capacity unless it has been clearly reported as such. Otherwise, it can only be regarded with certainty as a "factor."

Catalogue no. 81-595-MIE2006041

For the most part, questions about factors, limitations or barriers ultimately lead to the main objective of the project which is to monitor the supply of individuals entering health occupations. There are two aspects to this. The project aims to monitor a) the number of individuals trained for health occupations (quantity), b) the skills or learning of those individuals (quality), and c) entry into the labour market.

In this context, the outline looks at factors related to the **quantity** and **quality** of the supply. These factors can be categorized generally as:

a) factors limiting who and how many want to enter health education programs (interest, prior learning assessment and recognition, and application);

b) factors limiting who and how many actually enter health education programs (access, prerequisites, capacity or number of seats);

c) factors limiting student learning within health education programs;

d) factors limiting retention within health education programs and achievement of professional credentials;

e) factors related to whether and where graduates enter practice; and

f) factors leading to changes in educational requirements for health occupations.

4. Information needs by occupation and jurisdiction

Health occupations

While the outline is presented generically, much of the information is needed at various levels of detail. In particular, there is an interest in this information for specific health occupations as well as various combinations of occupations. For example, information on interest, application and enrolment are needed for individual fields of study leading to specific occupations (for example, practical nursing). There could also be interest in more combined nursing occupations (for example, interest in any nursing program, whether practical nursing, nursing or psychiatric nursing). In addition, there is interest in comparing regulated occupations as a whole with non-regulated occupations.

It should be noted that defining and classifying fields of study and occupations is complex. A determination of exactly which fields and occupations comprise the health labour market for the purpose of health human resources management is an ongoing process. For the purpose of the outline, therefore, no definitive list of fields or occupations has been included.

Priority occupations for the HHRE project

In the ongoing work to investigate and present information to address the questions in this outline, data will be categorized according to standard classifications of field of study and occupation. Detail by field, or by occupation, will be available according to the classification system of the data source and in as much detail as the source can reliably provide. As a starting point, the HHRE project will place priority on 9 occupations previously identified through a consulting process and used by the Canadian Institute for Health Information (CIHI) for data collection purposes and reporting system development/enhancement (Physicians, Registered Nurses, Licensed Practical Nurses, Registered Psychiatric Nurses, Occupational Therapists, Physiotherapists, Pharmacists, Medical Laboratory Technologists and Medical Radiation Technologists).

For a more complete list of priority occupations emerging from the consultations, please refer to Appendix 3.

Catalogue no. 81-595-MIE2006041

Health jurisdictions: province and territory

In Canada, both education and health care are managed by the provinces and territories. For this reason, much of the HHRE information is also required for each jurisdiction. This is particularly true for questions which provide measures of activity – flows into, through, and out of health education. In addition, measures of mobility between jurisdictions and to other countries are important. Provinces and territories are particularly interested in "how many" individuals are graduating from health education programs in their own jurisdiction and if and where those graduates are moving to enter the labour market.

For this reason, ongoing research into how to address the questions in this information needs outline will explore the degree to which information is available by province or territory, how comparable it is from one jurisdiction to the next, and how much information is available about flows of individuals between jurisdictions.

5. Structure of the Health Human Resources and Education information needs outline

Before, During and After components of the outline

The HHRE information needs outline is organized in terms of the flow of individuals into, through, and out of health education. As a first structuring stage, the HHRE information needs are classified, therefore, into three main categories: Before entry to health education, During health education, and After health education.

Before entry to health education programs encompasses questions related to interest in health occupations and the recruitment of students (both youth and adults) into health education as well as questions of access and equity. It also encompasses information related to the process of application, acceptance into programs, prior learning assessment and recognition as well as the decision to enrol into health education programs.

During health education is a very broad category which covers information in two primary categories: institutions and programs and students in those programs. In terms of institutions and programs, information needs include questions about health education programs, their content, their admission requirements and processes, institutional and program infrastructure, resources, and capacity. The second category (students in health education) includes information needs related to student pathways through health education, including characteristics of students, persistence, mobility between institutions or programs, etc. Within both of these categories are questions related to various forms of practice education.

After health education programs covers questions related to the transition from health education into the labour market. This includes information about labour market activity in the five years immediately following graduation, pursuit of additional education, geographic and occupational mobility, as well as information about professional licensure or registration. It should be emphasized that this section does not extend to questions about the levels of education among workers in the labour market, or long term economic returns to education in the labour market. These would be questions related to the characteristics of individuals in the labour market overall as opposed to the flow of health graduates into the labour market. As such they are out of scope for this project.

Structural sub-components of the outline

Within each of these three main structuring sections, there are a number of sub-components which have been used to organize the outline. These generally follow the chronological flow of individuals into, through, and out of health education and

represent key categories of information which fit into that structure. Other key concepts that do not fit into this temporal framework are discussed here as cross-cutting or overlapping dimensions. For example, while "characteristics of students" is a concept which clearly fits within the framework, a broader concept such as "gender in health education" is a concept which applies to many of the questions throughout the outline. As such, gender can be considered a cross-cutting element or dimension of the outline.

It should be noted that some sections have higher levels of details in the questions. This is a reflection of the amount of thought and interest expressed in the topic during the consultations, and as such, a reflection of its importance. For example, very detailed questions were asked about practice education as it is a critical education issue for health human resources planning. For a list of priority topics emerging from the consultations, please refer to Appendix 3.

Before entry to health education programs

Interest in health occupations (aspirations) – The flow of individuals into health education is initiated with interest or aspirations. A variety of factors influence whether individuals aspire to a career in health, and which occupation they aspire to. This concept includes questions related to who wants to go on to health education, what are their socio-demographic characteristics and academic qualifications, and how do they learn about health education and occupations. This section includes information about the recruitment practices of educational institutions, occupational organizations, and government.

Prior learning assessment and recognition (PLAR) of previous education and work experience, including internationally-trained – This section touches prior learning assessment and recognition (PLAR) from an education point of view rather than from a regulatory body point of view. It first takes an institutional point of view with questions on which programs assess and recognize previous education or work experience. In a second part, it takes an individual-based approach by asking questions on the individuals who seek recognition or prior learning. Finally, there are questions about factors and barriers related to PLAR.

Application, acceptance and decision to enrol in health education programs – This category of information needs includes questions about who applies to a health education program, who is accepted (made an offer of admission) or not, who decides not to enrol, and what are the factors related to application and acceptance as well as what barriers to entry exist. In particular, this section includes questions related to **access** to health education for individuals with different backgrounds. For this and the "During health education" section, it is important to distinguish between those who apply to a program (or more than one), those who are accepted to one or more programs, and those who actually enrol in a specific program.

During health education

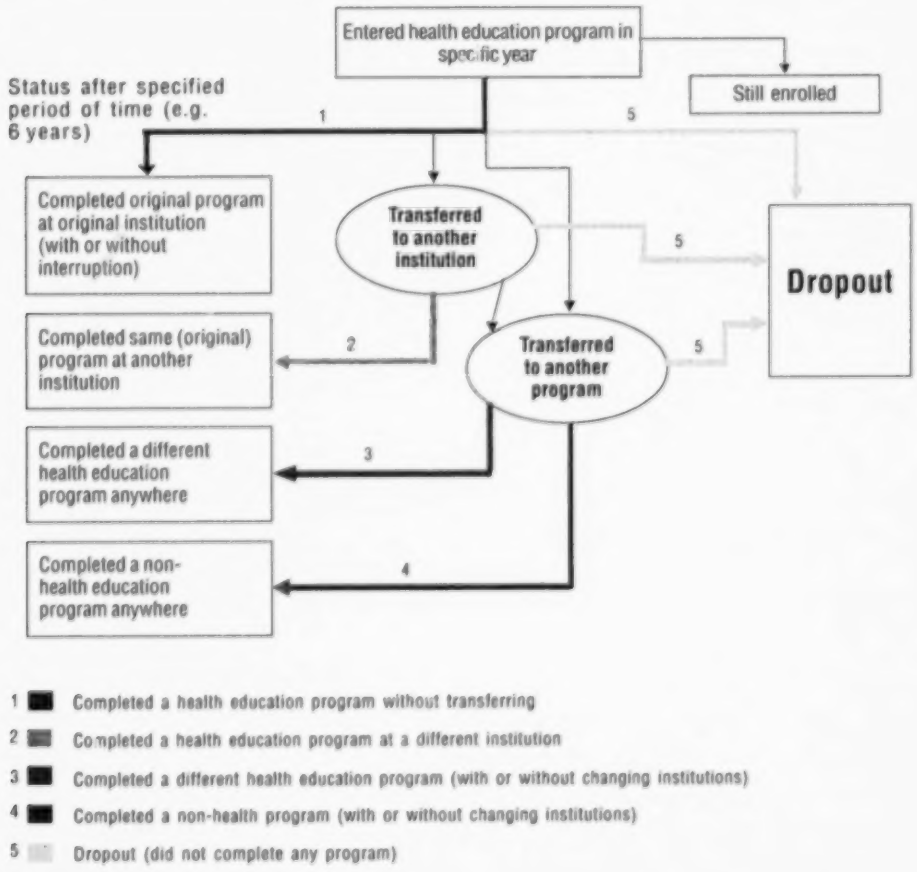
Health education program information – This is a large section of information needs all of which centre on characteristics of health education programs: characteristics of educational institutions where the programs are offered, admission requirements and process, capacity, funding, staffing, practice education components,

and limitations affecting the capacity and quality of health education programs. This section focuses on institution-based information.

Students in health education programs – This section of information outlines characteristics of the flow of students entering health education programs (new entrants) as well the characteristics of all students enrolled (the student population). It includes questions about student pathways through health education, including part-time study, transfers into other programs or institutions, interruptions, student geographical mobility, student financing, and practice education experience. To the extent that this section looks at the characteristics of entrants, it also touches on the issue of **access** (also addressed in "Before").

Although this section focuses on individual-based information, institution or program-based information about student attrition is included insofar as the pathways of interest distinguish between students who complete their program in their original institution, those who complete elsewhere, and those who transfer to another program or drop out entirely. Figure 2 outlines the main pathways of interest.

Figure 2
Pathways through health education


Entered health education program in specific year
Still enrolled
Status after specified period of time (e.g. 6 years)
1
5
Completed original program at original institution (with or without interruption)
Transferred to another institution
5
Dropout
Completed same (original) program at another institution
2
Transferred to another program
5
Completed a different health education program anywhere
3
Completed a non-health education program anywhere
4
1 Completed a health education program without transferring
2 Completed a health education program at a different institution
3 Completed a different health education program (with or without changing institutions)
4 Completed a non-health program (with or without changing institutions)
5 Dropout (did not complete any program)

Catalogue no. 81-595-MIE2006041

After health education programs

Graduates from health education programs – This includes overall characteristics of health education graduates. It also includes information on student debt and debt repayment as well as information on graduate satisfaction with their programs and occupations as well as future plans of graduates.

Activities after study – This section includes information on transitions in the first five years after leaving study: the pursuit of additional education, labour market outcomes, education-work match and the mobility of graduates, both geographic and occupational. While the questions in this section related to graduates from health education programs, where relevant, activities of non-completers are also of interest.

Also found in this section are information needs about the kinds of jobs health graduates get, how they find them, and whether and how they get licensed or registered. This is individual-based information. For example, it would focus on what the actual qualifications of those entering an occupation as opposed to the formal entry requirements of that occupation (see next).

Occupational requirements (standards) – This section includes questions about the education levels, skills, and licensing requirements of occupations as well as information for competency maintenance and continuing education. It also includes questions on changes to educational entry-to-practice requirements. This focuses on formal requirements and processes and can be classified as institution-based information.

Employers and health education programs – This section includes questions about employer programs and policies for the recruitment and retention of new health graduates, questions about the relevance of health education to employers as well as questions about employers' views and expectations of new graduates.

Continuing education – This section includes information needs related to the availability and nature of continuing education courses and programs as well as the participation of individuals in those courses.

Cross-cutting dimensions, factors and issues

In addition to the concepts outlined above, there are a number of cross-cutting issues which apply to the framework and outline generally. Most of these added dimensions are not explicit in the outline. For example, in many cases, information is needed, not just by occupation and province or territory (see previous section) but also for other different subpopulations defined by personal characteristics (e.g. sex or age), or educational characteristics (e.g. students with previous experience in health occupations, part-time students). Some questions require information over time to measure trends. In addition, where possible and appropriate, benchmarks for comparisons would also be wanted (e.g. comparing individuals aspiring to health occupations to those who do not; comparing graduates from health education programs to all graduates). Finally, it will be also important to compare groups within the outline – for example, comparing individuals applying to health education programs to those who enrol in the programs to those who graduate from the programs.

The outline, based upon the consultations, presents information needs in terms of generic questions, but not in terms of how these questions could be answered using statistics (e.g. ratios, proportions, means, etc.). The way the questions will be answered or **measured** (and indeed whether they can be answered) will be determined in a later stage in the project.

The following list lays out a number of important characteristics or factors for which information may need to be broken down. For example, information such as labour market outcomes of graduates would be required by sex since men and women may have different post-graduation experiences. It would also be wanted by previous work experience since graduates who previously worked in the health labour market may have different post-graduation work experiences than those with no previous work experience in health.

Time – In some cases, it is desirable to have information for a number of time periods in order to track trends. This would include information requirements about previous trends, variations from year to year as well as questions about future trends (forecasting).

Personal characteristics

- Sex
- Age
- Language
- Citizenship
- Immigration status
- Ethnic origin
- Visible minorities
- Aboriginal identity
- Disabilities

Family and community characteristics

- Education of parents
- Occupation of parents
- Family income
- Family structure
- Characteristics of community of origin (or of high school)

Geography

- Before (e.g. family home or high school), during and after study
- Province or territory and country
- Urban or rural
- Proximity to a major centre
- On-reserve or off-reserve (for Aboriginal peoples)

Educational and work experience

- Literacy levels and/or skill levels
- Grades
- Level of math and science education
- Highest level achieved previously (especially in health)
- Volunteer experience
- Work experience (especially in health)

Catalogue no. 81-595-MIE2006041

Program and institution characteristics

Level of education (college, bachelor, masters', earned doctorate, etc.)
Full-time or part-time study
Type of program (entry-to-practice requirements, access, bridging, etc.)
Method of instruction (distance education versus traditional classroom instruction)
Educational institution (public versus private)
Admission process (first qualified, first entered or competitive)

Economic sectors and industries

Private versus public
Hospital versus community

For a list of priority cross-cutting factors emerging from the consultations, please refer to Appendix 3.

6. Summary information needs outline

I. Before entry to health education programs

A) Interest in health occupations (aspirations)

a) Aspiring to health occupations
b) Learning about health occupations
c) Recruitment into health occupations or programs
d) Factors related to interest (and non-interest) in health occupations

B) Prior learning assessment and recognition (PLAR) of previous education and work experience, including internationally-trained

a) Health education programs using PLAR
b) Individuals in the PLAR process
c) Factors and barriers related to PLAR

C) Application, acceptance and decision to enrol in health education programs

a) Applying to health education programs
b) Accepted applicants to health education programs
c) Accepted applicants' decision to enrol
d) Factors and barriers related to application and entry

II. During health education

A) Health education program information

a) Characteristics of educational institutions where health education programs are offered
b) Characteristics of health education programs
c) Admission requirements and process
d) Program capacity (seats)
e) Program funding
f) Educators (faculty and instructional staff) teaching in health education programs
g) Practice education (includes clinical placement and practical (clinical) training, practicum or on-site workplace experience)
h) Limitations affecting capacity and quality of health education programs

Catalogue no. 81-595-MIE2006041

B) Students in health education programs

a) New entrants in health education programs
b) Students enrolled in health education programs (total student population)
c) Student financing
d) Pathways through health education programs (including measures of attrition)
e) Factors and barriers related to persistence and factors related to attrition
f) Student mobility (geographical)
g) Practice education (practical (clinical) training) experiences of students

III. After health education programs

A) Graduates from health education programs

a) Characteristics of graduates from health education programs
b) Student debt of graduates from health education programs
c) Satisfaction and plans of health education graduates

B) Activities after study

a) Pursuit of additional education (including graduate studies) after completion of a health education program
b) Licensure or registration
c) Labour market outcomes of graduates from health education programs
d) Education-work match from the perspective of graduates from health education programs
e) Geographic mobility of graduates from health education programs
f) Recruitment and retention after graduation

C) Occupational requirements (standards)

a) Entry-to-practice requirements (of regulatory body and/or employers)
b) Competency/skills maintenance (regulatory body vs. employers)
c) Changes in educational entry requirements

D) Employers and health education programs

a) Relevance of education to employers
b) Employers' views and expectations of new graduates

E) Continuing education

a) Availability of continuing education
b) Participation in continuing education

7. Detailed information needs outline

I. Before entry to health education programs

Information needs related to before entry to health education programs

This section encompasses questions related to what happens before entry into health education programs. It includes questions about who is interested in health occupations, how their aspirations are formed and how they learn about health education programs and health occupations. It also includes questions about who applies to health education programs, what factors lead to application, acceptance and the decision to enrol into health education programs as well as what barriers prevent individuals from applying and entering health education programs.

A) Interest in health occupations (aspirations)

a) Aspiring to health occupations

i) How many individuals are interested in health occupations?

ii) What are the characteristics of individuals interested in health occupations (socio-demographic, academic qualifications, work experience, etc.)?

iii) Who has a direct impact on aspirations (family, teachers, peers, etc.)?

iv) When are aspirations formed?

(1) When do individuals become interested in health occupations?

(a) At what point in schooling or in life are aspirations formed (before, during, after high school, once in the workforce, etc.)?

(b) Do some lose interest?

(i) When do they lose interest?

(ii) What are the reasons why they lose interest?

b) Learning about health occupations

i) What do individuals know about health education and occupations? What do they know about...

(1) What education is required?

(2) Where they can get it?

(3) What it will cost them?

(4) What are the labour market conditions for the occupation (employment, unemployment, earnings, etc.)?

ii) Where do they find out about health education programs and occupations (orientation programs, recruitment programs, personal research, volunteering, other people, etc.)?

Catalogue no. 81-595-MIE2006041

c) Recruitment into health occupations or programs

i) What recruitment practices are used by institutions, occupations, and government?

(1) Who does recruitment?

(2) Which individuals or groups are targeted by the recruitment (population groups, institution types, etc.)?

(3) What recruitment methods are used?

(a) Where do they advertise/recruit (educational institutions, science classes, etc.)?

(b) What media do they use (job fairs, print, internet, television, etc.)?

(c) Do they provide incentives for specific individuals or groups (financial, special integration programs, etc.)?

ii) How are recruitment programs funded (sources, amounts, etc.)?

d) Factors related to interest (and non-interest) in health occupations

i) What are the factors related to interest (and non-interest) in health occupations (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

ii) What is the impact of different sources of information (especially orientation and recruitment practices) on interest in health occupations?

B) Prior learning assessment and recognition (PLAR) of previous education and work experience, including internationally-trained

a) Health education programs using PLAR

i) How many health education programs make use of formal assessment and/or recognition of prior education and/or skills and competencies (e.g. prior learning assessment, recognition, credit transfers, etc.)?

ii) What are the characteristics of this assessment and/or recognition?

(1) What kinds of assessment and recognition are used by institutions?

(2) What are the policies or procedures used?

(3) What methods of PLAR are used (interviews, program review, practice, qualifying exams, simulation, etc.)?

(a) What are the requirements and conditions (language, level of education, experience, etc.)?

(b) Is there a practical (clinical) component to this evaluation?

(c) Is it available for specific individuals or groups (internationally-trained, adults with work experience, etc.)?

(4) Does the institution offer a Portfolio development course to help the candidates?

(5) What is the maximum percentage of each program that can be credited?

(6) Who does the assessment (program faculty or other staff, outside organization, etc.)?

(7) Is there a PLAR coordinator at the institution?

iii) Which role do regulatory bodies or professional associations play in assessment and recognition of education and/or skills and competencies?

iv) What are the reasons why PLAR is not offered in all institutions?

v) What previous credentials are automatically recognized (especially from which countries)?

b) Individuals in the PLAR process

i) How many individuals request PLAR?

ii) What are the characteristics of individuals requesting PLAR (socio-demographic, academic qualifications, work experience, etc.)?

iii) How much does a PLAR request cost?

iv) How many individuals successfully obtain partial recognition?

v) What are the characteristics of individuals who successfully obtain partial recognition (socio-demographic, academic qualifications, work experience, etc.)?

vi) How many individuals successfully obtain full recognition for a previous degree or diploma?

vii) What are the characteris ics of individuals who successfully obtain full recognition of a previous degree or diploma (socio-demographic, academic qualifications, work experience, etc.)?

c) Factors and barriers related to PLAR

i) What are the factors related to requesting prior learning assessment and recognition (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

ii) What barriers exist that prevent internationally-trained individuals and individuals with informal or non-formal learning from requesting prior learning assessment and recognition?

iii) What are the factors related to obtaining recognition (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

iv) What barriers exist that prevent internationally-trained individuals and individuals with informal training from obtaining recognition?

C) Application, acceptance and decision to enrol in health education programs

a) Applying to health education programs

i) How many apply to health education programs?

(1) How many apply to more than one program at the same time?

(a) How many apply to the same program in more than one institution at the same time?

(2) How many apply to the same program in the same institution more than once?

Catalogue no. 81-595-MIE2006041

ii) How many are qualified applicants?

(1) For minimum entry into the field (within the jurisdiction)?

(2) For entry into the specific program they applied to?

iii) What are the characteristics of individuals applying to health education programs (socio-demographic, academic qualifications, work experience, etc.)?

iv) Who has a direct impact on the decision to apply (family, teachers, peers, etc.)?

b) Accepted applicants to health education programs

i) How many applicants are accepted?

(1) How many are accepted into multiple programs at the same time?

(a) How many are accepted into more than one institution at the same time?

(2) How many applicants are accepted by the program of their first choice?

ii) How many applicants are not accepted?

(1) How many qualified applicants are not accepted?

(a) How many meet minimum field of study admission requirements within the jurisdiction?

(b) How many meet the admission requirements of the program they applied to?

(c) For those with multiple applications, how many qualified applicants are not accepted into any health program?

(d) What are the reasons they are not accepted?

(2) How many applicants are not accepted in the program of their first choice?

iii) What are the characteristics of applicants who are accepted and not accepted (socio-demographic, academic qualifications, work experience, etc.)?

c) Accepted applicants' decision not to enrol

Note: for information on individuals enrolling in health education programs see **Students in health education programs** – Section II. B).

i) How many accepted applicants do not enrol in any health education program for which they were accepted?

(1) How many were accepted in multiple health education programs?

(a) How many were accepted in more than one institution?

ii) What are the characteristics of accepted applicants who do not enrol in any health education program (socio-demographic, academic qualifications, work experience, etc.)?

iii) What are the reasons they are not enrolling?

(1) Have they enrolled in a non-health program?

d) Factors and barriers related to application and entry

i) What are the factors related to application to health education programs (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

ii) What is the impact of different sources of information (especially for orientation and recruitment practices) on application to health education programs?

iii) What factors affect trends in applications to health education programs (especially changes in entry-to-practice requirements, perceived debt loads, work conditions, increases in tuition, etc.)?

iv) What barriers exist that prevent individuals from applying to health education programs?

v) What are the factors related to applicants being accepted (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

vi) What are the factors related to enrolling and not enrolling once accepted (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

vii) What barriers exist that prevent individuals from entering health education programs once accepted?

II. During health education

Information needs related to during health education

This section encompasses information from two overlapping perspectives. First it covers the characteristics of health education programs and the institutions which provide them. This includes information on admission and program requirements, program resources (including staff, funding, and physical infrastructure), program capacity, admission requirements and information on practice education requirements. Second, this section covers information about students. It includes information on student characteristics and enrolment, student financing, student educational and work activity while enrolled (including registration status, practice education experiences of students, pathways through postsecondary education, persistence and barriers to completion).

A) Health education program information

a) Characteristics of educational institutions where health education programs are offered

i) Is the institution private or public?

ii) What is the type of establishment (community college, university, etc.)?

iii) Where is the institution located (province or territory, rural or urban, etc.)?

iv) What is the size of the institution (number of students)?

v) What are the services provided to students (childcare on site, help in re-locating students from rural areas, health care assistance, financial assistance, counselling and personal support, residence, assistance to students with special needs, language courses, etc.)?

Catalogue no. 81-595-MIE2006041

b) Characteristics of health education programs

i) What is the level of the program (type of credential granted such as certificate, diploma, degree, etc.)?

ii) What is the type of program (entry-to-practice, continuing education, access, bridging, pre-entry, etc.)?

iii) What is the expected length of the program if taken full-time?

(1) What is the maximum time allowed to complete the program?

iv) What are the program requirements (coursework, etc.)?

(1) Are there any practical (clinical) training requirements (residency, co-op, practicum, clinical placement, etc.)? (see **Practice education (includes clinical placement and practical (clinical) training, practicum or on-site workplace experience)** – Section II. A) g))

(2) How are the hours in the program allocated between classroom, laboratories, practical (clinical) training, etc.?

v) Where is the program offered (on/off campus, separate campus, etc.)?

vi) What methods of instruction are available (traditional classroom, distance education, etc.)?

vii) How does the content of the courses in the program address...

(1) cultural sensitivity (for Aborginal peoples and other ethnic groups)?

(2) workplace readiness?

(3) transition/succession planning?

viii) Distance education

(1) What is the length of time allowed to complete an online course?

(a) Does it take longer than traditional education?

(2) What technologies are used in distance education (online, simulation, video, etc.)?

(3) Are people from rural or remote areas subsidized if they take distance education?

(4) Can a student take distance education in another province or territory?

ix) What options are available to accelerate or decelerate the program (compressed, fast-track, part-time, etc.)?

x) What is the language of instruction?

xi) Are there competencies/skills established for this program?

(1) What are they?

(2) How are the competencies developed (through coursework, practical training, etc.)?

(3) Are they portable?

xii) Accreditation

(1) Is the program accredited?

(a) Is it mandatory or elective?

(2) Who grants the accreditation?

(a) At which level is the accreditation granted (regional, provincial or territorial, national, international)?

(3) Are there predefined standards used for accreditation?

(a) What are the predefined standards?

(4) What is the accreditation process?

(5) Is the program recognized internationally?

(6) Which one is more important: accreditation or approval?

(a) For which reasons?

xiii) What financial resources (other than revenues from work or investments) are available to students to cover their expenses (loans, grants, bursaries, scholarships, etc.)?

(1) What are the amounts typically available from each of the sources?

(2) Who provides these financial resources?

c) Admission requirements and process

i) What are the official pre-requisites for entry into the program (previous education and work experience, etc.)?

(1) Are there special admission requirements for specific populations (especially non-traditional students)?

ii) What is the admission process?

(1) Where are the applications processed (department/faculty or program, institution, regional application centre, provincial or territorial application centre, national application centre, etc.)?

(2) How are decisions for offers of admission made (first-qualified/first entered, competitive, by priority, etc.)?

iii) What factors are taken into account in the admissions process (geographical background, marks, previous postsecondary education, etc.)?

(1) How does capacity level (oversubscribed programs, undersubscribed programs, etc.) influence what the selection is based on?

iv) Is there a waiting list?

(1) How many students are on the list?

(2) What are the characteristics of those on the waiting list (socio-demographic, academic qualifications, work experience, etc.)?

(3) How many students with above minimum requirements are on the list?

(4) How long is the list kept for?

(5) How long can a student stay on the list?

(6) How many students on the list end up getting in the program?

v) Assistance in entering health education programs

(1) Does the institution provide specially-designed programs to help people complete the entry requirements to a health education program (i.e. Access programs, bridging programs, etc.)?

(a) Which programs are available?

(b) Are these programs available for specific individuals or groups (Aboriginal peoples, immigrants, students from remote areas or rural areas, etc.)?

d) Program capacity (seats)

i) How many seats are available for students?

ii) How many seats are reserved (for disabled students, international students, aboriginal students, students from another province or territory, etc.)?

(1) How is the number of reserved seats determined?

(2) How many reserved seats are funded?

(a) Which ones?

(b) Who funds the seats?

(3) How many reserved seats are filled?

(a) If not filled, are they opened up for other students?

iii) How many seats are funded?

(1) How is the number of funded seats determined?

(2) Who funds the seats?

(3) Are they all filled?

(a) If not, are the seats opened up for other students?

iv) Are there quotas?

(1) What are the quotas?

(2) Who sets the quotas?

v) Is the program oversubscribed or undersubscribed?

(1) What are the reasons for over-subscription or under-subscription (recruitment program, pre-requisites, cost, length of program, etc.)?

e) Program funding

i) What is the overall cost/budget of the health education program?

(1) How are the costs broken down (operating, research-related, etc.)?

ii) What are the amounts and sources of program funding (private/public contributions, tuition and other fees, research funding, etc.)?

iii) Is the funding sufficient to meet the needs of program?

iv) What influences the cost of the program?

v) What are the tuition fees of the program?

f) Educators (faculty and instructional staff) teaching in health education programs

i) How many educators are there?

(1) At what course level do they teach?

ii) What are the characteristics of educators (socio-demographic characteristics, educational background, previous work experience, etc.)?

iii) What are the routes of entry into teaching for recently hired educators (current hiring practices: direct entry upon graduation, clinician experience, teaching assistants, doctoral students on contract, etc.)?

iv) What are their work arrangements (conditions)?

(1) What is their employment status (permanent, temporary, casual, on contract, etc.)?

(a) How many hours per week are they working (part-time, full-time, etc.)?

(b) What is their job tenure (permanent position, position leading to permanence, casual, contract, etc.)?

(2) What are the functions an educator is actually performing?

(a) How many hours are allocated to each function (teaching, course preparation, practice, research, etc.)?

(3) What are their average earnings?

v) Requirements for educators

(1) What are the credentials required for teaching different program or course levels?

(2) How much work experience is needed for teaching different program or course levels?

(3) Are there any competency maintenance requirements?

(a) What are they?

(b) What type of training support is offered to educators?

vi) Educator recruitment

(1) What are the types of recruitment strategies used to attract educators?

(2) What is being done to compensate for difficulty in recruitment (including do programs rely on their own graduate students to teach)?

vii) Educator attrition

(1) How many educators leave teaching?

(2) What are the reasons some educators leave teaching?

(a) What are the factors related to leaving teaching (personal characteristics, characteristics of the occupation, etc.)?

(b) What are the stated reasons for leaving?

(3) Where do they go once they leave their teaching position (geographic mobility, move to another teaching position, to research, to practice, to retirement, etc.)?

Catalogue no. 81-595-MIE2006041

(4) Of those who leave teaching, do some come back?

(5) When do educators retire?

(a) What is the typical age of retirement?

(b) Is retirement mandatory?

(c) How many continue to work after age 65?

(6) What retention strategies do programs use?

(a) What are the types of incentives used to retain educators (best practices on a pan-Canadian basis that are very context-specific such as work conditions, sabbatical, research chairs, funding, etc.)?

(b) What are the factors related to retention of educators (personal characteristics, characteristics of the occupation, etc.)?

g) Practice education (includes clinical placement and practical (clinical) training, practicum or on-site workplace experience)

i) Administration of practice education

(1) Is there practical (clinical) training associated with the program?

(a) How many practical (clinical) training experiences are available?

(b) How many clinical sites participate in the program?

(c) What kind of compensation (if any) is in place for clinical sites?

(d) How many students are placed in the different clinical sites for the program?

(e) How many hours of clinical instruction do students receive in total?

(2) Is the practical (clinical) training mandatory or elective?

(3) Who sets requirements for practice education?

(a) Are there requirements in the program for type (specialties) of practical (clinical) training experiences?

(i) If yes, which ones?

(b) Are there requirements in the program for location (settings or clinical sites) of training?

(4) At what point in the program does the practice education experience occur (spring, summer, fall, winter, after a certain number of credit courses, etc.)?

(a) If the program makes use of staggered clinical (practical) training experiences, how are these timed in the program?

(5) Where are they offered?

(a) Geographically (on-site vs. off-site, rural/remote vs. urban area, on-reserve vs. off-reserve, within the province or territory vs. outside the province or territory, in Canada vs. in another country, proximity to educational institution, etc.)

(b) In which type of practice setting (clinical site: hospital, acute care, long-term care, community/home care, etc.)?

(6) In what language is the practical (clinical) training offered?

(7) What is the duration of the practical (clinical) training?

ii) Use of simulation during the practical (clinical) training

(1) What are the opportunities for clinical training by simulation?

(a) Does the institution possess this type of technology (simulators)?

(b) How much simulation is allowed in a program?

(2) Does the program use simulated laboratory experiences for learning during the practical (clinical) training?

(a) How much practical (clinical) training is done through simulation?

(b) What are the activities undertaken in these laboratories?

(c) What is the duration of practical (clinical) training through simulated laboratory experiences?

(3) What are the factors inhibiting the use of simulators for practical (clinical) training?

iii) Supervision in practice education (practical (clinical) training)

(1) How many individuals supervise practical (clinical) training?

(2) What are the characteristics of individuals supervising practical (clinical) training (socio-demographic characteristics, educational background, previous work experience, etc.)?

(3) What models of supervision are used (1:1 model, group placements, multiple preceptors, collaborative learning units, technologically-assisted supervision, etc.)?

(4) What is the nature of the guidance that these preceptors give during the practical (clinical) training experience (at-the-bench supervision/students observing their work, lectures, review sessions, tests, etc.)?

(5) What kinds of resources and support do preceptors of practical (clinical) training receive for their work with students?

(a) Do they receive any compensation or recognition (monetary or otherwise) for their supervising responsibilities?

(i) If so, who pays them?

(ii) How much are they paid for their supervising responsibilities?

(6) Is there distance supervision or special procedures for people using distance education?

(7) Requirements for preceptors of practice (clinical) training

(a) What level of education is needed for supervising?

(b) How much work experience is needed for supervising?

(c) What type of work experience is needed for supervising?

Catalogue no. 81-595-MIE2006041

(d) Are there any competency maintenance requirements?
  (i) What are they?
  (ii) What type of support is offered to preceptors who would like to maintain their competencies?
(e) Who sets the requirements for preceptors?

(8) Preceptors' work arrangements (conditions)
(a) How many hours per week do they work (part-time, full-time, etc.)?
  (i) How many hours per week do they supervise?
(b) What is their employment status (permanent, temporary, casual, on contract, etc.)?
(c) For whom do they work (employer at the clinical site, educational institution, etc.)?

(9) Preceptor recruitment
(a) What are the types of recruitment strategies used to attract preceptors?
(b) What is being done to compensate for difficulties in recruitment?

(10) Preceptor attrition
(a) What is the turn-over of preceptors?
  (i) How many preceptors stop supervising?
  (ii) What are the reasons some preceptors stop supervising?
    a. What are the factors related to leaving supervising (personal characteristics, characteristics of the occupation, etc.)?
    b. What are the stated reasons for leaving?
  (iii) Of those who leave supervising, do some come back?
  (iv) How long were they preceptors before leaving?
(b) What are the retention strategies?
  (i) What are the types of incentives used to retain preceptors (best practices)?
  (ii) What are the factors related to retention of preceptors (personal characteristics, characteristics of the occupation, etc.)?

iv) Funding of practice education

(1) What are the costs and benefits of practical (clinical) training...[2]
(a) For students?
(b) For the institution?
(c) For the government?
(d) For the employers?

(2) How is practice education funded?

(a) What are the sources of funding (share of education/health, federal government, provincial or territorial government, private sector, etc.)

v) Capacity of practice education

(1) What is the capacity for practical (clinical) training across Canada?

(a) Are there sites where practical (clinical) training could be offered but are not currently used?

(i) What are the reasons these sites are not used?

vi) Relevance of practice education

(1) Is the number of practical (clinical) training positions adjusted to the market needs?

(2) What is the link between practical (clinical) training available and market needs?

vii) Competencies and practice education

(1) What is the link between competencies and number of hours in practical (clinical) training?

(a) What is the rationale for the specified duration (practice hours) required to become fully qualified?

h) Limitations affecting capacity and quality of health education programs

i) From both a student perspective and an institution perspective, what are the factors limiting enrolment capacity in health education (teaching resources/educators, aspects of institutional physical infrastructure, availability and nature of funding, aspects of practical (clinical) training, etc.)?

(1) To what degree do these factors limit enrolment capacity?

ii) From both a student perspective and an institution perspective, what are the factors limiting student learning (program quality) in health education (teaching resources/educators, aspects of institutional physical infrastructure, availability and nature of funding, aspects of practical (clinical) training, etc.)?

(1) To what degree do these factors limit student learning?

B) Students in health education programs

a) New entrants in health education programs

i) How many individuals enter health education programs?

ii) What are the characteristics of individuals entering health education programs (socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, etc.)?

iii) How did they come to choose their health education program?

(1) What are the reasons they choose their health education program (especially for those with previous experience in health occupations)?

(2) What factors influenced them in their choice of a health education program (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

(3) When did they become interested in their health education program or occupation?

(4) Was it their first choice?

(5) What program characteristics or recruitment practices had an impact on their program choice?

iv) How do actual admission requirements compare with the qualifications of entrants?

v) What factors influence changes in the profile of entering students (including over-subscription or under subscription, selection process, labour market conditions, etc.)?

b) Students enrolled in health education programs (total student population)

i) How many students are enrolled in health education programs?

ii) What are their characteristics (socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, academic and school engagement, etc.)?

c) Student financing

i) What does it typically cost students for their program (tuition, incidentals, books, supplies, living costs, etc.)?

(1) What does it typically cost students for the time spent in practical (clinical) training?

(a) To whom is this paid?

ii) What financial resources (other than revenues from work or investments) are used by students to cover their expenses (loans, grants, bursaries, scholarships, etc.)?

(1) What are the amounts obtained by students for each of the sources?

(2) Who provides these financial resources?

d) Pathways through health education programs (including measures of attrition)

i) What are the pathways through health education programs (see Figure 2 for a description of the pathways)?

(1) How many complete in their original program and institution?

(a) How many interrupt their program and return later to complete (stopouts)?

(2) How many transfer to another institution, but complete the same program?

(3) How many transfer to another health program and complete it in the same institution or elsewhere?

(a) Which program did they complete (field of study and level of education)?

(4) How many transfer to a non-health program and complete it in the same institution or elsewhere?

(5) How many drop out of their studies and fail to complete any program anywhere (in the country)?

ii) How many students fail to complete...

(a) Their original health education program in their original institution (institutional program attrition)?

(b) Their health education program anywhere at the same level of education as their original program (i.e. bachelor degree) - (program attrition)?

(c) Their health education program anywhere at any level of education (i.e. college instead of university) - (field of study attrition)?

(d) Any health program (health education attrition)?

iii) What are the characteristics of students with different pathways (as listed above - socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, etc.)?

e) Factors and barriers related to persistence and factors related to attrition

i) What are the factors related to persistence in health education programs (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

ii) What are the factors related to attrition in health education programs (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

iii) What factors are related to the other pathways (see Figure 2 for a description of the pathways - personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

iv) What are the reasons they are taking different pathways?

(1) What prevents students from completing their program (barriers)?

f) Student mobility (geographical)

i) How many students left their community of origin to enter their health education program?

(1) What are the reasons why they move?

(2) How long before the start of their program did they move?

(3) Where did they move (urban or rural community, within province or territory, out of province or territory, out of the country)?

ii) What are the characteristics of students who left their community to enter their health education program (socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, etc.)?

Catalogue no. 81-595-MIE2006041

iii) How many students left the community of their institution for their practical (clinical) training?

(1) What are the reasons why they move to do their practical (clinical) training (availability of practical (clinical) training, specialization, language problem, etc.)?

(2) For how long did they move?

(3) Where did they move (rural/urban, within province or territory, out of province or territory, out of the country)?

(4) How much did the move cost them?

(5) Did they receive any help relocating?

(a) What type of help did they receive?

(b) From whom did they receive help?

(c) What are the needs of students from rural areas for practical (clinical) training (help relocating, childcare, etc.)?

iv) What are the characteristics of students who left the community of their institution for their practical (clinical) training (socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, etc.)?

v) How many students left the community of their institution during their studies?

(1) What are the reasons why they move?

(2) At what point during their studies did they move?

(3) Where did they move (urban or rural community, within province or territory, out of province or territory, out of the country)?

(4) Was this move part of the program?

(5) Did this involve a change of program and/or institution?

vi) What are the characteristics of students who left the community of their institution during their studies (socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, etc.)?

g) Practice education (practical (clinical) training) experiences of students

i) How many students get practical (clinical) training experience?

ii) What are the characteristics of students obtaining practical (clinical) training (socio-demographic, academic qualifications, program characteristics, activities while in study, work experience, prior learning assessment and recognition, etc.)?

iii) What are the characteristics of students' practical (clinical) training?

(1) How many practical (clinical) training experiences do students have?

(2) In what language do they take them?

(3) What is the duration of their practical (clinical) training experience?

(4) Where do they occur?

(a) Geographically (on-site vs. off-site, rural/remote vs. urban area, on-reserve vs. off-reserve, within the province or territory vs. outside the province or territory, in Canada vs. in another country, proximity to educational institution, etc.)

(b) In which type of practice setting (clinical site: hospital, acute care, long-term care, community/home care, etc.)?

(5) At what point in the program do they occur (spring, summer, fall, winter, after a certain number of credit courses, etc.)?

(6) Are they structured to provide experiences with different specialties?

(a) If so, for which specialties?

iv) Is the practical (clinical) training accessible for all students (especially students with disabilities, students from rural/remote areas, immigrants, etc.)?

v) What are the barriers to access to practical (clinical) training?

vi) Do the students receive any compensation or financial support during their practical (clinical) training?

(1) Who pays them?

(2) What are their average earnings?

vii) Do students participate in any additional activities not related to the clinical site that contribute to their clinical education (e.g. field trips, outside lectures, etc.)?

III. After health education programs

Information needs related to after health education

This section encompasses information about the period immediately following graduation. It includes base information on the characteristics of graduates and detailed information on their transitions into the labour market, including work activity, geographic mobility and continuing education. The focus is on the short-term outcomes (within five years of graduation) as a measure of graduate transitions. As this project is aimed at measuring the education of health occupations, further measurement of labour market activity after graduation is beyond the scope of the project.

This section also includes information on occupational entry-to-practice requirements and skill or competencies maintenance requirements as well as the employers' perspective of graduates' training and skills.

A) Graduates from health education programs

a) Characteristics of graduates from health education programs

i) How many graduate from health education programs?

ii) What are the characteristics of individuals graduating from health education programs (socio-demographic, academic qualifications, program characteristics, activities and pathways while in study, work experience, method of instruction, prior learning assessment and recognition, etc.)?

iii) How much time did graduates take to complete their program?

(1) What is the time to completion relative to the expected duration of the program?

(2) What factors are related to time to completion (especially personal characteristics, characteristics of health education programs, work activity, practical (clinical) training, finances, etc.)?

b) Student debt of graduates from health education programs

i) How many graduates owe money for their studies at graduation (government debt/other debt)?

(1) How much do they owe?

(2) How much of this debt is related to previous education?

(3) Who do they owe it to (government, private, family, etc.)?

ii) What are the characteristics of graduates with student debt (socio-demographic, academic qualifications, program characteristics, activities and pathways while in study, work experience, method of instruction, prior learning assessment and recognition, etc.; by size of debt, type of debt)?

iii) Debt repayment

(1) How quickly do graduates pay off their debt?

(2) When do graduates expect to pay off their debt?

(3) How do graduates pay off their debt (regular payments, lump sum, using other debt, etc.)?

(4) What is the relationship between debt payments and income (debt burden)?

(5) How many have problems repaying their debt?

(6) What programs are available to help graduates repay their debt?

(7) How many receive formal assistance (interest relief, debt reduction, return-to-service, etc.)?

(8) What factors are related to debt repayment (personal characteristics, characteristics of the occupation, characteristics of health education programs, etc.)?

c) Satisfaction and plans of health education graduates

i) Program satisfaction and job satisfaction

(1) How satisfied were graduates with their health education program?

(2) How satisfied are graduates with their current employment?

(a) Does the work meet the expectations that they had?

(b) How many graduates would rather be working in another environment?

(i) Where would they rather be working?

(c) Do graduates feel that their work and home life are balanced?

(d) How do graduates feel that their work impacts on the activities that they have?

ii) Long term plans

(1) Do graduates from health education programs intend to stay in their occupation?

(2) In which type of occupation would they like to work?

(3) In which type of industry would they like to work?

(4) Do they have any plans to pursue additional education?

(a) When do they intend to pursue additional education?

(b) In which field of study do they plan to pursue additional education?

(c) Which credential to they plan to pursue?

B) Activities after study

a) Pursuit of additional education (including graduate studies) after completion of a health education program

i) How many go on to additional education (including graduate studies) after completing a health education program?

(1) What are the reasons why students pursue additional education (increased entry-to-practice requirements, voluntary upgrading, for teaching or research, occupational mobility, etc.)?

(2) Which program do they pursue?

(3) What level of education do they pursue?

ii) What are the factors related to pursuit of additional health education (personal characteristics, characteristics of the occupation, characteristics of health education programs; especially graduate studies)?

iii) What barriers exist that prevent the pursuit of additional health education?

b) Licensure or registration

i) How many graduates from health education programs attempt to get their licence or registration?

ii) What are the characteristics of graduates from health education programs who attempt to get their licence or registration (socio-demographic, academic qualifications, program characteristics, activities and pathways while in study, work experience, method of instruction, prior learning assessment and recognition, etc.)?

iii) How many succeed in obtaining their licence or registration?

iv) What are the characteristics of those who succeed (socio-demographic, academic qualifications, program characteristics, activities and pathways while in study, work experience, method of instruction, prior learning assessment and recognition, etc.)?

v) How many attempts does it take to succeed?

vi) How many graduates from health education program encountered difficulties in their attempt to get their licence or registration?

(1) What are the difficulties encountered?

vii) What are the reasons for lack of success?

viii) What are the reasons some graduates from health education programs do not attempt to get a licence (including lack of interest in direct care, pursuit of additional education)?

c) Labour market outcomes of graduates from health education programs

i) What is graduates' short-term labour market activity (employment, unemployment, etc.)?

ii) Working graduates from health education programs

(1) When did graduates start working?

(a) How many graduates work immediately upon graduation?

(i) How many graduates work in health immediately upon graduation?

(ii) How many graduates do not work in health immediately upon graduation?

(b) How much time is there between graduation and the first job?

(i) How much time is there between graduation and the first job in health?

(ii) How much time is there between graduation and the first job in the occupation for which they trained?

a. How does the need for licensure or registration affect the time it takes for graduates to work in the occupation for which they trained?

(2) Where do graduates work?

(a) In which industry do they work?

(i) In what type of institution do they work (hospitals, acute centres, community centres, long-term centres, etc.)?

(b) For which employer do they work?

(c) In which sector of the economy do they work (public/private)?

(d) In which province/territory or country do they work?

(i) How many graduates are not working in the province or territory of their choice?

(e) In what type of community do they work (rural/urban, on-reserve/off-reserve, etc.)?

(i) How many graduates are not working in the community of their choice?

(f) Do they work in the same location as their practical (clinical) training?

(g) Do they work for the employer with which they signed an agreement prior to graduating?

(h) What influences where (employer, type of institution, geographic location, etc.) graduates choose to work (incentives, debt load, etc.)?

(3) What type of work is done by graduates?

(a) How many graduates from health education programs work in health occupations?

(b) What type of work do they do (direct care, instruction, scientific research, policy analyst, public health or prevention, etc.)?

(i) What are the reasons why some graduates from health education programs are not working in direct care?

a. How many of these are licensed or registered?

(c) How many graduates from health education programs do not work in health occupations?

(i) In which occupation do they work?

(ii) What are the reasons they are not working in the occupation for which they studied?

(iii) How many are licensed or registered to work in a health occupation?

(4) What are graduates' work conditions?

(a) What hours do graduates work at their job (full-time, part-time, casual, voluntary part-time, hours worked per week, etc.)?

(b) Do graduates work at multiple jobs?

(i) How many jobs do graduates have?

(c) What is their wage or salary?

(i) What benefits do they have?

(5) Which methods did graduates use to find the job that they have?

(a) Did employers approach them while they were in their educational program? (see **Employers and health education programs** – Section III. D))

(6) How many graduates work in an inter-professional teamwork environment?

(a) What model is used?

(i) Which occupations participate in the model?

(b) Did they learn of this type of environment in their educational program?

d) Education-work match from the perspective of graduates from health education programs

i) Does the program give graduates the necessary skills to work in the current labour market?

(1) Are graduates expected to obtain their technological skills in the workplace?

ii) Do graduates feel that they meet employers' skills requirements?

iii) Do graduates feel that they meet employers' work requirements?

iv) How ready for their work do graduates feel?

v) How many graduates are working in the occupation of their first choice?

vi) How many graduates work in the occupation for which they studied?

e) Geographic mobility of graduates from health education programs

i) How many graduates leave the province or territory of their studies in the first five years after graduation?

(1) Where do they go (province or territory, country)?

(2) What are the reasons why they leave (work conditions, lack of portability of on-the-job training, left occupation, research opportunities especially post-doctoral, recognition of occupation, pursuit of additional education, etc.)?

ii) How many graduates who left their community of origin prior to their studies return to their point of origin in the first five years after graduation?

(1) For those who left the community of their institution to complete practical (clinical) training elsewhere, how many returned to the community of their practical (clinical) training after graduation?

iii) For those who left the community of their institution to complete practical (clinical) training/residency elsewhere, how many returned to the community of their practical (clinical) training in the first five years after graduation?

(1) For how many graduates was this community also the home community?

(2) For how many graduates was this community also a rural area?

(3) For how many graduates was this community both the home community and a rural area?

iv) What are the factors related to geographical mobility and lack of geographical mobility (especially family responsibilities, portability)?

f) Recruitment and retention after graduation

i) Which factors are related to graduates from health education programs returning to or remaining in their community of origin (personal characteristics, sense of owing something to their community, pay off student debt, service agreement contract, educational programs, etc.)?

(1) Which methods or incentives work best?

ii) What are the reasons why graduates do not return to their point of origin?

iii) How many times do graduates change occupation in the first five years after graduation?

iv) What are the reasons why they change occupation (fit, work conditions, pay, etc.)?

v) From which occupation (health, non-health) to which occupation do they change to (health, non-health)?

vi) What are the ways in which graduates could be retained in the occupation in the first five years (continuing education support, recognition of equivalency, etc.)?

vii) What types of recruitment practices or incentives are used by employers to recruit new graduates (service agreement, job fair, etc.)?

(1) Do employers approach students while they are still in their educational program?

(2) Are there any specific groups targeted (rural vs. urban, male vs. female, ethnic origin, Aboriginal peoples, etc.)?

(a) For which reasons?

viii) Do graduates change employers in the first five years after graduation?

(1) How often do they change employers?

(2) What are the reasons why they change employers (work conditions, pay, etc.)?

(3) Do they remain in the same occupation?

(a) If in a health occupation, do they change to another health occupation?

C) Occupational requirements (standards)

a) Entry-to-practice requirements (of regulatory body and/or employers)

i) Educational requirements

(1) If any, what are the entry-to-practice education requirements for each occupation?

(2) Are they mandatory or elective?

(3) Who determines the educational requirements for entry-to-practice?

(a) Are there national standards in educational requirements?

(i) What are they?

(b) What is the process in place to change these educational requirements?

(c) Do entry-to-practice educational requirements match what employers need in the workforce?

(d) Is there a gap between what is set by the regulatory body and those expected by the employers?

(e) Are educational requirements portable between provinces and territories?

ii) Competency/skills requirements (regulated occupations (regulatory body/professional association) and non-regulated occupations (employers))

(1) If any, what are the formal entry-to-practice competency/skills requirements (abilities, proficiencies, etc.)?

(2) Are they mandatory or elective?

(3) Who determines the competency requirements for entry-to-practice?

(a) Are there national standards in competencies?

(i) What are they?

(b) What is the process in place to change these competency requirements?

(4) Do the competency requirements match what employers need as skills in the workforce?

(5) For occupations with well-known standards, is there a gap between the standards set by the regulatory body and those expected by employers?

(6) Are competencies portable between provinces and territories?

iii) Licensure or registration requirements

(1) What are the licensing or registration requirements?

(2) How is licensure or registration obtained (written exam, practice exam, etc.)?

(a) Who ensures the quality of the review?

(3) At what level is the licence or registration recognized (regional, provincial/territorial, national, international)?

(a) Are there any mobility agreements across jurisdictions?

(4) For how long is the licence or registration granted?

(5) For what tasks is the licence or registration granted?

b) Competency/skills maintenance (regulatory body vs. employers)

i) Are there any competency maintenance requirements once in the occupation?

(1) What are they (courses, hours, examinations, etc)?

(2) Are they mandatory or elective?

c) Changes in educational entry-to-practice requirements

i) What changes occur in entry-to-practice educational requirements?

(1) Who do they apply to?

(2) When do they occur or come into effect?

ii) Factors leading to change in educational requirements

(1) What are the factors driving the change in credentials required (market-drive, supply-driven, occupation-drive, shortages, etc.)?

(2) Where does the decision to change requirements originate (regulatory body/professional association, institution, mix of both, employers, United States, etc.)?

(3) Are the changes mandatory?

(4) Who implements them?

iii) What is the impact of changing educational requirements on...

(1) applicants and interest in the occupation (number, profile, etc.)?

(2) students (number, attrition, costs, perceptions)?

(3) institutions (including educators, practical (clinical) training, infrastructure)?

(4) employers?

(5) work conditions of graduates (including salary)?

(6) continuing education (competency maintenance) requirements?

(7) mobility (geographic and occupational)?

D) Employers and health education programs

a) Relevance of education to employers

i) What are the employers' views and expectations of programs?

(1 Are programs meeting their needs in terms of training/ curriculum?

(a) Do employers feel there is a need to change entry-to-practice educational requirements?

(b) Do employers feel there is a need to change skills/ competency requirements?

ii) Are there any communication links between employers and institutions regarding the ability of a program to meet the market needs?

(1) How does the education link to practice?

(a) Who makes the decisions on the number of seats?

(i) How is the decision made?

(b) How do institutions make decisions on curriculum, including the incorporation of new technologies?

b) Employers' views and expectations of new graduates

i) What are the views and expectations of employers relative to the ability of new graduates to perform their work?

(1) Do employers believe that graduates' skills meet their requirements or expectations?

(a) Is there a gap between competencies of new graduates and expectations of employers?

(b) Do employers expect graduates to obtain their technological skills in the workplace?

(2) Are employers willing and/or able to mentor new graduates or do they expect them to be fully trained upon entering?

(a) How does this link with attrition/retention in occupation?

(3) Do employers feel that graduates meet their work requirements?

(4) Apart from accredited programs, do employers require that graduates have credentials from specific health education programs?

Catalogue no. 81-595-MIE2006041

E) Continuing education

Continuing education requirements for occupations (see **Competency/skills maintenance (regulatory body vs. employers)** – Section III. C) b))

a) Availability of continuing education
   i) Who offers continuing education (institutions, employers, regulatory body/professional association, etc.)?
      (1) How many programs are there?
      (2) Are they recognized?
         (a) Who recognizes them?
   ii) Where is it offered (on-the-job, conference, educational institution, another public location, etc.)?
   iii) Which methods of instruction are used for these programs?
   iv) Are specializations offered?
   v) What is the length of the studies?
   vi) Are the studies portable to another work location?
   vii) Instructors for continuing education in health
      (1) How many instructors are there?
         (a) At what course level do they teach?
      (2) What are their characteristics (socio-demographic, academic qualifications, previous work experience, etc.)?

b) Participation in continuing education
   i) How many individuals pursue continuing education?
   ii) What are the characteristics of individuals pursuing continuing education (socio-demographic, academic qualifications, work experience, etc.)?
   iii) In which manner do they pursue continuing education (informal (e.g. learning-by-doing, observing somebody else performing tasks, etc.) versus formal (e.g. courses, conferences, meetings with other professionals, etc.))?
      (1) What are the characteristics of the formal training (specialization, required/voluntary, credit/non-credit course, method of instruction, cost, funding, length of studies, location of instruction, who provides the course, etc.)?
   iv) What are the reasons they pursue continuing education (mandatory, keep or obtain work, etc.)?
   v) Is there employer support for their continuing education?
      (1) What type of education or training is supported by the employer (formal, informal or non-formal learning?)
      (2) What kind of employer support (paying tuition fees, accommodation, transportation, course materials, providing time off, etc.)?
      (3) Does employer support in continuing education encourage new graduates to remain in their occupation?

vi) Is there non-employer support for their continuing education (expenses covered, loans, etc.)?

(1) Who gives this support?

vii) What are the factors related to participation in continuing education (personal characteristics, training characteristics, etc.)?

viii) What are the barriers to participation in continuing education (lack of portability, lack of recognition, location of program, etc.)?

8. Discussion on terms used in this document

Aboriginal identity

Refers to those persons who are descendants of the original inhabitants of North America and/or who identify with at least one Aboriginal group, i.e. North American Indian, Métis or Inuit, and/or those who are a Treaty Indian or a Registered Indian as defined by the *Indian Act* of Canada and/or who are members of an Indian Band or First Nation.

Academic qualifications

Academic qualifications are usually obtained through formal study in a recognized educational institution and are documented. In the absence of documentation through a recognized educational institution, academic qualifications may be established through prior learning assessment and recognition (PLAR).

Accepted applicants

For the purpose of this project, accepted applicants are those who are offered admission into a health education program. If the accepted student chooses to enrol in the program, he or she becomes an entrant in the program. If the student declines the institution's offer, he or she is still considered an accepted candidate. Some organizations use the term "acceptance" to refer to "accepted offers of admission" which would describe entrants or those who decide to enrol. For this framework, "acceptance" refers to the acceptance of an application in order to identify individuals whose application is "accepted" (perhaps to more than one program) but who do not ultimately enrol or register.

Accreditation

A process of quality assurance through which accredited status is granted to an educational institution or program of study. It means that standards of education established by professional authorities have been met. In Canada, individuals and educational institutions are not accredited. The term applies only to educational programs of study. The process usually includes self-assessment by the program under review and on-site visits by qualified, external reviewers from government and/or non-government agencies. Degrees, diplomas, or certificates emanating from non-accredited programs do not have the same status as those issued by accredited programs and may not be recognized at all. A program's accreditation status is normally subject to periodic review and may be withdrawn by relevant professional authorities (CICIC 2003).

Admission requirements (entrance requirements)

A set of criteria stipulating education and other types of training or experience for eligibility to enter an educational program or occupation. May include minimal levels of achievement and/or scores on examinations (CICIC 2003).

Application

The act of filling in and submitting an application form requesting entrance into an education program.

Aspirations

Aspirations are often referred to as "educational aspirations" or "occupational aspirations." This is defined in terms of the broadest level of interest in an occupation or an educational program. To the greatest extent possible, measures of educational and occupational aspirations are not limited by the perceptions of barriers. A count of individuals aspiring to be a doctor, for example, would include all those who are interested in medicine, or who want to be a doctor. It would not be restricted only to those who **expect** to become a doctor. That measure is generally referred to, instead, as **occupational or educational expectations**. This distinction allows researchers to examine the factors that determine whether someone who wants to be a doctor expects or does not expect to be.

Attrition

Is the inverse of retention or a measure of the number of students who cease participation in a program without completion. When students leave without completion, they are considered "dropouts." However, if they eventually return, then their status changes to that of "stopout."

Attrition levels depend on the population of interest and are generally institution or program focussed. For example, an institution may be interested in attrition from specific programs at that institution. However, students who leave a program might transfer to another program or institution. As such, a dropout from one program or institution might become a graduate from another. In this case, attrition from one specific program may not comprise attrition from the field of study, or from that institution. See figure 2 for a chart of the various pathways through education.

Attrition can also be calculated for other groups such as educators and preceptors. In these cases, attrition is a measure of the number of individuals leaving their teaching/supervising position.

Citizenship

Refers to the legal citizenship status of the person. Most persons have a single citizenship but some have more than one. Citizenship can be classified in terms of categories such as Canadian by birth (this could include persons born in Canada and persons born outside Canada to Canadian parents) or Canadian by naturalization (landed immigrants who have applied for and been granted, citizenship).

Clinical placement/Practicum

This term is often used to designate an "on-site working experience." This term is also used to designate an internship, an externship, or a clinical or a practical training (see Practical (clinical) training).

Clinical site

This is the setting for practical (clinical) training. Common examples of practical settings are: hospital, acute care, long-term care and community/home care.

Competency

A measurable skill or set of skills, level of knowledge, and behavioural practices obtained through formal, non-formal or informal learning; ability to perform occupation-specific tasks and duties (CICIC 2003).

Continuing education

Participation in formal, informal or non-formal learning activities which are of an organized or self-directed nature, occur after one has completed their education for licensure or practice, and may be voluntary or mandatory. Mandatory continuing education is required by licensure board, professional organization, or the workplace in order to maintain competence, retain licensure, certification, registration and/or employment (The Office of Professional Development 2004).

While enrolment in programs leading to credentials would meet competency maintenance requirements to retain licensure, certification, registration and/or employment, in this framework, this would be considered as "pursuing additional education." However, taking a single course offered by such program for credit without enrolling in the program would be considered as continuing education.

Credential

Documented evidence of learning based on completion of a recognized program of study, training, work experience, or prior learning assessment. Degrees, diplomas, certificates, and licences are examples (CICIC 2003).

Disabilities

In a broad sense, people with disabilities are people whose everyday activities are limited because of a condition or health problem.

Duration (of course or program)

Refers to the length of time that a course, program or practical (clinical) training sessions will take for successful completion. This can be measured in terms of hours, days, weeks, months or years.

The "expected" duration of the program is the length of time that **should be taken** to complete the program when students follow the normal layout of the program. The "actual" duration of the program is the time students **actually take** to complete the requirements of the program.

Educational institutions

- **Public sector education or training**

Refers to the education and training taken in an educational institution which comes under the jurisdiction of Provincial/Territorial Ministries of Education. Public institutions are supported directly by public funds. Examples of public sector postsecondary institutions offering health education programs are community colleges and universities.

- **Private sector education or training**

Refers to the education and training taken outside the jurisdiction of Provincial/ Territorial Ministries of Education. Private institutions are supported primarily from private funds in the form of tuition, fees, endowments and donations. These may be business schools, vocational schools, private training institutes established by an employer within a firm, and the like, which may receive some public funding but that are mainly funded through tuition fees charged to students.

Educators

For the purpose of this project, educators refer to university professors, instructors and assistants as well as instructors teaching in other postsecondary institutions, such as college and trade-vocational.

It excludes preceptors of practical (clinical) training also known as mentors, supervisors, clinical faculty and clinical instructors (see **Supervision in practical (clinical) training**).

Employer support for education or training (employer-sponsored)

Refers to education or training activities that are financially supported by the employer. The employer may sponsor an employee by paying tuition fees, accommodation, transportation, course materials, providing time-off, etc.

Employment status

Employment status is a classification of a job as permanent (one that has guaranteed hours and is expected to last as long as the employee wants it, given that business conditions permit i.e. there is no pre-determined termination date), temporary (guaranteed hours and a predetermined end date, or will end as soon as a specified project is completed).

Information can be collected to allow the sub-classification of temporary jobs into: seasonal (worked only at certain times of the year); term or contract job, including work done through a temporary help agency (with a predetermined end date); and casual job (a job in which work hours vary substantially from one week to the next; or the employee is called to work by the employer when the need arises, not on a pre-arranged schedule; or the employee does not usually get paid for time not worked, and there is no indication from the employer that he/she will be called to work on a regular, long-standing basis.)

Enrolment

See **Entry or enrolment.**

Entry or enrolment

Registration into an education program and actually entering by taking courses towards completing the program.

Entry-to-practice requirements

The educational or other qualifications identified in provincial/territorial legislation for a specific health occupation as the requirement for an individual to be considered for registration or licensure to practice in that occupation in that province or territory.

Ethnic origin

Refers to the ethnic or cultural group(s) to which a person's ancestors belong.

An ancestor is someone from whom a person is descended and is usually more distant than a grandparent. Other than Aboriginal persons, most people can trace their origins to their ancestors who first came to this continent. Ancestry should not be confused with citizenship or nationality.

Family structure

Refers to the classification of families into married couples (with or without children), common-law couples (with or without children), lone-parent families, and other types.

Field of study

The specific subject area of the program of studies (e.g., medicine, economics, architecture, social work). Since 2000, Statistics Canada uses the Classification of Instructional Programs (CIP) to categorize and standardize fields of study. For more information on the CIP, visit www.statcan.ca, choose **Definitions, data source and methods**, then click on **Instructional programs**.

Formal education or training

Education or training activity which is formally structured and sequentially organised, in which learners follow a program of study or a series of experiences planned and directed by a teacher or trainer and generally leading to some formal recognition of education performance.

Full-time/part-time study

Educational institutions normally classify their students as full-time or part-time students depending on the number of courses in which they are enrolled.

Graduates (at the postsecondary level)

Students who have successfully completed a program of study and been awarded a credential.

Health labour market

For the purpose of this project, the health labour market covers a wide range of workers in health occupations including, but not limited to, those providing direct health care.

Immigration status

Refers to whether people have been granted the right to live in Canada permanently by immigration authorities. In combination with a citizenship question, this can be used to identify the non-immigrant population (Canadian citizens by birth), the immigrant population (landed immigrants) and the non-permanent resident population (people from another country who have an employment authorization, a student authorization, or a Minister's permit, or who were refugee claimants at the time of the census, and family members living here with them).

Industry

The general nature of the business carried out by the employer for whom a person works. At Statistics Canada, industries are coded according to the North American Industry Classification System (NAICS). For more information on NAICS, visit www.statcan.ca, choose **Definitions, data source and methods**, then click on **Industry**.

Informal learning vs non-formal learning

Informal learning is the lifelong process whereby an individual acquires attitudes, values, skills and knowledge from daily experience, educative influences, while performing regular tasks at work or through other resources in his/her environment. These learning experiences are not structured in the form of a class under the direction of a teacher nor are they organised in a progressive sequence. They are not intended to be recognized by a formal award. It is also called lifelong learning.

Non-formal learning refers to learning through a programme that is not usually evaluated and does not lead to a certification.Informal and non-formal learning are not intended to earn academic credentials, but they may be recognized through prior learning assessment and recognition (PLAR).

Job tenure

The number of consecutive months or years a person has worked for an employer.

Level of education

The level of education refers to the credentials which can be obtained upon completion of a program. Some examples of level of education are college certificate or diploma, bachelor degree, first professional degree, masters' and earned doctorate.

Licence

A document used by some trades and professions to signify that the licence-holder meets competency and other requirements and is entitled to practise. Although generally used within a regulatory system prohibiting practise without a licence, there are occupations for which licensing is voluntary. Licences may also be granted to services and facilities (as in a licensed day-care facility) (CICIC 2003).

Licensure vs registration vs certification

Licensure is the mandatory procedures for determining licence eligibility, granting licences, and protecting the public regarding licensed occupations.

Licensure, the most restrictive form of regulation, often gives a profession a monopoly on providing certain activities/services for consumers, and the exclusive use of a specific title or designation. It reserves (solely for those licensed) exclusivity to the performance of certain activities/services. The licensing body is an agency (either a government agency or an agency that has been delegated authority by government to regulate the profession) that sets entry-to-practice requirements for the profession (including education and examinations). In some cases it is responsible for ensuring that licensees maintain professional competence.

Registration is a less restrictive model of regulation than licensing in that it typically does not create a monopoly on the provision of services/activities. The regulatory body is an agency (either a government agency or an agency that has

been delegated authority by government to regulate the profession) that sets entry-to-practice requirements for its members (including education and examinations). In some cases it is responsible for ensuring that members maintain professional competence. The registration model provides the members of the regulatory body with title protection.

Certification is much like the registration model, and the terms certification/registration are frequently used interchangeably. The certification/registration body may or may not have been given legislative authority to regulate the profession. Voluntary professional associations, which are not a legislated authority, frequently register/certify members.

Lifelong learning

See **Informal learning vs non-formal learning.**

Method of instruction

Refers to the techniques used to meet the objectives of the course or program. Some possible methods are classroom instruction, simulation, and distance education or distributed learning.

- **Distance education or distributed learning**

Education conducted through the postal services for paper-based or correspondence material, linking to live classrooms or video technology, radio, television, online over the Internet or newspaper, with little or without regular face-to-face contact between teacher and student. Usually the student must have completed an enrolment process to be regarded as a distance learner.

- **Simulation**

Teaching technique that reproduces actual events and processes under test conditions.

Mobility

In the scope of this project, there are three types of mobility:

- **Geographic mobility**

Implies movement between two geographical areas, whether between two communities, between rural areas and urban centres, between on-reserve and off-reserve, between jurisdictions or between countries.

- **Occupational mobility**

Implies a change in occupations.

- **Employer mobility**

Implies a change of employers.

Occupation

Standard term used by Statistics Canada to describe all forms of work. Occupations are classified according to the National Occupational Classification - Statistics (NOC-S). For more information on the NOC-S, visit www.statcan.ca, choose **Definitions, data source and methods**, then click on **Occupation**. This term is preferred to "profession" as it does not imply the application of "professional" standards by a professional organization or other authority.

- **Health occupations**

For the purpose of this project, health occupations cover a wide range of occupations related to health services and delivery. These include, but are not limited to, practitioners of health care.

- **Regulated occupations**

A regulated occupation is one that is controlled by provincial and territorial (and sometimes federal) law and governed by a professional organization or regulatory body. The regulatory body governing the occupation/trade has the authority to set entry requirements and standards of practice, to assess applicants' qualifications and credentials, to certify, register, or licence qualified applicants, and to discipline members of the occupation/trade. Requirements for entry, which may vary from one jurisdiction to another, usually consist of such components as examinations, a specified period of supervised work experience, language competency, etc. To work in a regulated occupation and to use a regulated title, an individual must have a licence or certificate or be registered with the regulatory body for the occupation. Some occupations are regulated in certain provinces and territories and are not regulated in others.

- **Non-regulated occupations**

A non-regulated occupation is an occupation/trade for which there is no legal requirement or restriction on practice with regard to licences, certificates, or registration. The vast majority of occupations in Canada fall into this category. For some non-regulated occupations, certification/registration with a professional body is available to applicants on a voluntary basis, whereas for other non-regulated occupations there is no certification/registration available at all.

In general, applicants for non-regulated occupations will have to demonstrate to their potential employers that they possess the experience and training required for the job. Even when an occupation is not regulated, employers can still require that an applicant for a job be registered, licensed, or certified with the relevant professional association.

Occupational requirements

Occupational requirements are the standard requirements of an occupation. These can be educational or other (such as not having a criminal record). For regulated occupations, regulatory bodies or associations are responsible for setting these requirements. However, for a majority of non-regulated occupations, standards to ensure the quality of services may not be well documented and could originate from employers' demands. Thus, there may be great variation in occupational requirements.

- **Entry-to-practice requirements**

These are the standard requirements that must be met in order to enter an occupation.

- **Competency/skills maintenance requirements**

These are the standard requirements that must be met in order to remain within an occupation. These are often met through **Continuing education.**

Catalogue no. 81-595-MIE2006041

Pathways

A longitudinal measure of the experiences and decisions of an individual. Pathways within institutions follow the activities of an individual within that institution. A full measure of an individual's pathways will include activities external to the institution (see Figure 2 for a chart of pathways through education).

Persistence

The degree to which an individual is able to persist in pursuing and achieving specific personal goals, used here in terms of educational outcomes.

Persistence is a term in the analysis of individuals pursuing education. Where attrition and retention rates generally describe programs or institutions (x% of the students in the program dropped out), persistence generally describes the educational pathways of specific populations (x% of youth persist in their education to completion). Persistence analysis normally follows the individuals in the population whether or not they transfer between programs and institutions.

Portability

Skills, knowledge, credentials, licensure or registration that can be transferred between employers, occupations, institutions or jurisdictions.

Portfolio development

Process of collecting, substantiating, and organizing documented evidence to support a candidate's claim for prior learning assessment credit or recognition.

Postsecondary health education

Refers to any credential from a level higher than secondary school that can be obtained in an educational institution which lead to any health occupation, including, but not limited to, practitioners in health care.

Practical (clinical) training

Practical (clinical) training is an essential component of educational preparation for working in health occupations. It offers the student an opportunity to observe, practice and hone hands-on technical, problem-solving and interpersonal skills in an authentic workplace setting. It can also help students preparing for professional certification examinations.

Although the nature of the experiences varies from one health occupation to the next, practical (clinical) training typically involves one or more periods of on-site workplace experience (the 'practicum') following in-class ('didactic') education.

Practice education

That portion of a health professional program of studies that is devoted to applying the principles of a profession to professional practice, in the workplace. Practice education is organized around programs provided by communities in a variety of formats e.g. primary care, acute care, chronic disease management. Practice education comprises both the placement of students in such agencies, and the education provided to those students by qualified health practitioners.

Preceptors

See **Supervision of practical (clinical) training.**

Prior learning assessment and recognition (PLAR)

Process designed for Canadian adults or internationally-trained immigrants to get their skills or previous education recognized to either further their education or to get their licence or registration to work in a specific occupation.

The assessment methods may include demonstrations, interviews, assignments, presentations, simulations, portfolio development and written and oral examinations.

A person can get PLAR or assessment and recognition through an educational institution (school board, college or university) or through regulatory bodies.

School boards, colleges and universities use PLAR to award academic credit for skills and knowledge learned in the workplace, during independent study, or through other means such as volunteering.

Regulatory bodies use PLAR to assess the knowledge and skills of internationally-trained workers for Canadian licensing and registration. There are rules/policies already in place for some occupations which can include clinical placement, additional courses (bridging programs) to upgrade their education to meet the Canadian standards and/or learn one of the official languages.

Employers can use PLAR to identify applicants' skills and reward the knowledge and skills of their workers for placement, transfer and promotions.

For the purpose of this project, the focus is on PLAR given by school boards, colleges and universities.

- **Assessment**

The identification and measurement of learning, credentials, and other forms of qualifications required for entry into programs of study or occupations. Assessment may include testing, examinations or other prescribed activities (CICIC 2003).

- **Recognition**

Formal acceptance of a students' knowledge, skills or former academic studies and the granting of advanced standing or credit. May also apply to formal acceptance of an educational institution or public authority (CICIC 2003).

- **Credit transfer**

Acceptance or recognition of credits by a host institution from another institution within or outside the jurisdiction (CICIC 2003).

Program

An integrated group of courses or learning activities in a particular field of study, completion of which leads to an academic credential (CICIC 2003).

- **Health education program**

For the purpose of this project, health education programs cover a wide range of programs in fields of study leading to health occupations. These include, but are not limited to, practitioners of health care.

Catalogue no. 81-595-MIE2006041

- **Entry-to-practice programs**

These are programs which meet the basic educational requirements for entry into a health occupation.

- **Access programs**

Canadian universities have developed access programs or transitional year programs for Aboriginal peoples and other specific groups or other underrepresented populations such as individuals with disabilities. Access programs are offered at the degree level and include academic, social and cultural supports and may include some financial assistance. Such programs respond to the ongoing under-representation of Aboriginal peoples at Canadian universities.

- **Bridging and laddering programs**

A program of study involving courses designed specifically to provide individuals with skills and knowledge required for entry into and occupation or a higher-level educational institution. It supplements learning outside a jurisdiction or at another institution and may consist of workplace training and occupation-specific skills acquisition, as well as language training (CICIC 2003) and cultural differences.

Most bridging programs are designed specifically for internationally-trained workers and tradespersons. They enable immigrants to make a quicker transition into the Canadian labour market by providing training that addresses specific needs and facilitates the recognition of international credentials.

These programs may include training in the following areas:

- occupation-specific language training;
- training in Canadian workplace culture, practices and communication;
- technical upgrading according to Canadian requirements; and,
- work placements to gain Canadian work experience.

The bridging and transition programs currently offered by colleges and institutes across the country focus on the following occupations: nursing and health care workers, engineering and the trades.

Some universities and colleges offer bridging courses and/or programs for Aboriginal students, immigrants or adults who were out of school for some time, to upgrade their academic level or get an appropriate training in order to enter an educational program. They also offer English and French language courses and Aboriginal culture programs.

- **Pre-entry programs**

These are programs that exist simply to enable a person to enter a specific program. Pre-entry programs will normally allow the person to obtain the pre-requisites for other programs.

- **Continuing education programs**

These are programs which meet competency maintenance requirements once a person works in a health occupation.

- **Other programs used in Aboriginal Health Human Resources Development**

These include: Pre-university Enrichment Programs (Summer Enrichment Program), Transition & Preparatory Programs, Undergraduate Enrichment Programs, Professional Health Support Programs.

Pursuit of additional education

The enrolment in a program in an educational institution following completion (graduation) from a prior program. Pursuit of additional education does not necessarily imply that the program will be completed.

Recognition (and assessment)

See **Prior learning assessment and recognition (PLAR)**.

Regulatory body

See **Occupation.**

Retention

Retention is the ability for a program, an institution, an occupation, an employer, a community, a jurisdiction or a country to retain individuals within its population. Retention within an institution is the opposite of attrition; retention within an occupation is the opposite of occupational mobility; retention by the employer is the opposite of employer mobility and retention within a community, jurisdiction or country is the opposite of geographic mobility.

Seats

Refers to the number of students that can be accepted in a program. Some seats are reserved by other institutions or organizations for certain target groups such as Aboriginal peoples or members of visible minorities, people with disabilities, or students from other jurisdictions.

Skills

Refers to practical knowledge, know-how or ability to perform a physical or mental task a person acquires through education or training.

Socio-demographic characteristics

Socio-demographic characteristics of individuals (applicants, students, graduates, educators, preceptors, etc.) refer to variables such as: age, sex, language, ethnic origin, province/territory, etc. Given different variables of interest for different individuals, the characteristics identified for each group may vary slightly.

Sources of program funding

- **Public sources**

Revenues obtained from government. These could be direct transfers for administration purposes or can be given in the form of research grants.

- **Private sources**

Revenues obtained from any source other than government, and can be categorized as:

- **Tuition fees and other fees**

Payments obtained from students directly in the form of tuition and other fees.

- **Non-government grants and contracts, donations and bequests**

Financial support received from donors, wills from grants and contracts from sources other than government, the latter provided with specific stipulations.

- **Sales**

Revenue from sales of services and products by the institution.

- **Miscellaneous revenue**

Commissions, royalties and fees from the use of institution-owned rights or properties, fees for services rendered, library and other similar fines, rentals, net gain or loss on the sale of fixed assets and any type of revenue not identified under other forms of revenue.

Supervision in practical (clinical) training

Supervision in practical (clinical) training may be undertaken by different individuals such as preceptors (i.e. tutors), supervisors (i.e. official advisors with regards to work performance), mentors (i.e. experienced professionals such as registered nurses), as well as by clinical faculty and instructors (Penman and Oliver 2004).

However, in order to lighten the text, 'preceptors' will be the term used to designate employees teaching, supporting and evaluating students in clinical sites.

Visible minority

The *Employment Equity Act* defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour."

References

Canadian Information Centre for International Credentials (CICIC) (2003). *Guide to terminology in usage in the field of credentials recognition and mobility.* CICIC.

Cesa, Frank and Suzanne Larente (2004). Work Force Shortages: A Question of Supply and Demand, *Health Policy Research*, Issue 8, May 2004. Health Human Resource Strategies Division, Health Policy and Communications Branch, Health Canada.

O'Brien-Pallas, L. (2002) "Where to from here?" (Editorial & Discourse). *Canadian Journal of Nursing Research* 33, 4 (March 2002): 3-14.

Penman, J. and Oliver, M. (2004) Meeting the challenges of assessing clinical placement venues in a Bachelor of Nursing program, *Journal of University Teaching and Learning Practice*, 1, 2. http://jutlp.uow.edu.au/2004_v01_i02/pdf/penman_002.pdf (consulted November 21, 2005)

The Office of Professional Development (2004). *Literature Review, Environmental Scan and Report on Continuing Education for Health Care Providers in Canada: Final Report*, Health Canada and Memorial University of Newfoundland, December 2004.

Tomblin Murphy, G, O'Brien-Pallas, L. and the Canadian Institute for Health Information (2005). *Guidance Document for the Development of Data Sets to Support Health Human Resources Management in Canada.* Ottawa: CIHI.

Appendix 1

List of consulted ministries/departments, groups, associations and educational institutions

There were about 250 individuals participating in our consultations, representing some 150 ministries, associations and institutions.

Academy Canada Career College

Alberta Advanced Education

Alberta College of Combined Laboratory and X-Ray Technologists

Workforce Education and Immigration Unit, Workforce policy and Planning Branch, Health and Workforce Division, Alberta Health and Wellness

Association of Canadian Community Colleges (ACCC)

Association of Canadian Faculties of Dentistry (ACFD)

Association of Canadian Occupational Therapy University Programes (ACOTUP)

Association of Colleges of Applied Arts and Technology of Ontario (ACAATO)

Association of Deans of Pharmacy of Canada (ADPC)

Association of Faculties of Medicine in Canada

Association of Faculties of Pharmacy of Canada (AFPC)

Association of Universities and Colleges of Canada (AUCC)

Atlantic Health Human Resource Association

Aurora College

Baffin Regional Hospital

BC Career Colleges Association (BCCCA)

BC Stats, Ministry of Labour and Citizens' Services

British Columbia Institute of Technology (BCIT)

Cameron Health Strategies Limited

Canadian Association for Health Services and Policy Research

Canadian Association of Electroneurophysiology Technologists (CAET)

Canadian Association of Medical Laboratory Educators (CAMLE)

Canadian Association of Medical Radiation Technologists (CAMRT)

Canadian Association of Nuclear Medicine

Canadian Association of Pharmacy Technicians

Canadian Association of Practical Nurse Educators (CAPNE)

Canadian Association of Prosthetists and Orthotists (CAPO)

Canadian Association of Registered Diagnostic Ultrasound Professionals (CARDUP)

Canadian Association of Schools of Nursing (CASN)

Canadian Association of Schools of Social Work (CASSW)

Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA)

Canadian College of Health Record Administrators

Canadian College of Health Service Executive

Canadian College of Naturopathic Medicine (CCNM)

Canadian Dental Hygienists Association

Canadian Health Information Management Association

Canadian Healthcare Association (CHA)

Canadian Institute for Health Information (CIHI)

Canadian Institutes of Health Research (CIHR)

Canadian Medical Association (CMA)

Canadian Mental Health Association (CMHA)

Canadian Nurses Association (CNA)

Canadian Physiotherapy Association (CPA)

Canadian Podiatric Medical Association (CPMA)

Canadian Post-MD Education Registry (CAPER)

Canadian Psychological Association

Canadian Public Health Association

Canadian Society for Medical Laboratory Science (CSMLS)

Canadian Society of Cardiology Technologists

Canadian Society of Clinical Perfusion

Canadian Society of Nuclear Medicine

Canadian Society of Respiratory Therapists (CSRT)

Centennial College

Centre for Health Economics and Policy Analysis (CHEPA)

Centre for Rural and Northern Health Research, Laurentian University

College of Dental Technicians of British Columbia

College of Health Disciplines, University of British Columbia

College of Registered Psychiatric Nurses of Manitoba

The Conference Board of Canada

Conference of Rectors and Principals of Quebec Universities

Canadian Council on Learning (CCL)

Consumer and Safety Services, Department of Community Services, Yukon Government

Council on Post-Secondary Education (COPSE), Manitoba

Dalhousie University

Department of Education, Citizenship and Youth, Manitoba

Department of Education, Culture and Employment, Northwest Territories

Department of Education, New Brunswick

Department of Education, Newfoundland and Labrador

Department of Education, Nova Scotia

Department of Education, Nunavut

Department of Education, Prince Edward Island

Department of Health and Community Services, Newfoundland and Labrador

Department of Health and Social Services, Northwest Territories

Department of Health and Social Services, Nunavut

Department of Health and Social Services, Yukon

Department of Health and Wellness, New Brunswick

Department of Health, Nova Scotia

Department of Training and Employment Development, New Brunswick

Dietitians of Canada

Emergency Medical Assistant Licensing Board (EMA)

Department of Health and Social Services, Prince Edward Island

First Nations and Inuit Health Branch (FNIHB), Health Canada

Health Canada

Health Match BC

Herzing College

Human Resources Action Group of the Canadian Strategy for Cancer Control and the Canadian Association of Provincial Cancer Agency

Human Resources and Skills Development Canada (HRSDC)

Institute of Acupuncture and Traditional Chinese Medicine

Institute of Population and Public Health, CIHR

Interior Health Authority (IHA), British Columbia

Keyin College

Kwantlen University College

Lakeland College

Laurentian University

Malaspina University College

Manitoba Advanced Education and Training

Manitoba Health

Maritime Provinces Higher Education Commission (MPHEC)

Massage Therapy Association of Manitoba Inc.

McMaster University

Medicine Hat College

Memorial University of Newfoundland

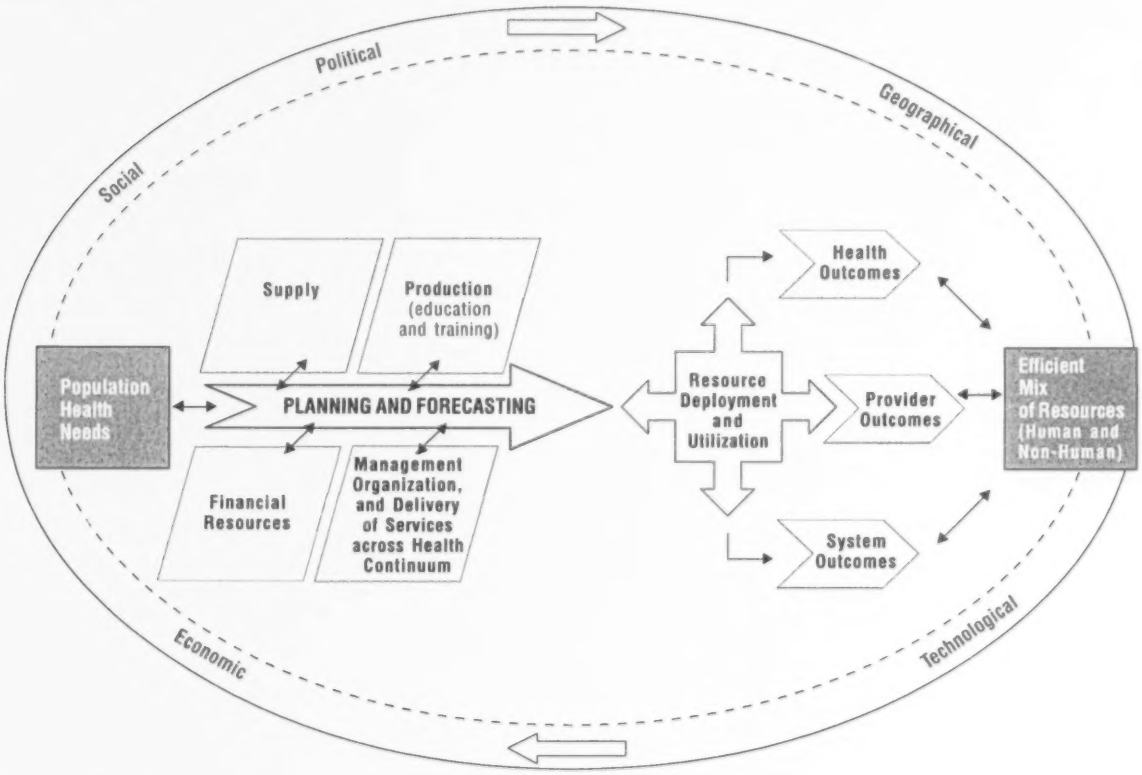
Michener Institute
Ministère de l'Éducation, du Loisir et du Sports (MELS), Québec
Ministry of Advanced Education, British Columbia
Ministry of Health and Long term Care, Ontario
Ministry of Health Services, British Columbia
Ministry of Training, Colleges and Universities, Ontario
Mohawk College
National Aboriginal Health Organization (NAHO)
National Association of Career Colleges (NACC)
New Brunswick Community College
Northern Alberta Institute of Technology (NAIT)
Northwest Community College
Nova Scotia Community College
Nunavut Arctic College
Office des professions du Québec (OPQ)
Ontario College Application Services (OCAS)
Ordre des infirmières et infirmiers auxiliaires du Québec (OIIAQ)
Paramedic Association of Canada
Prince Edward Island Licensed Practical Nurses Registration Board
Provincial Health Services Authority (PHSA), British Columbia
Red River College
Regina-Qu'Appelle Health Region (RQHR), Saskatchewan
Saskatchewan Association of Health Organizations (SAHO)
Saskatchewan Association of Combined Laboratory and X-Ray Technicians
Saskatchewan Health
Saskatchewan Institute of Applied Science & Technology (SIAST)
Saskatchewan Learning
Sunrise Health Region, Saskatchewan
The Brantford General Hospital
The Chinese Medicine and Acupuncture Association of Canada
The College of Family Physicians of Canada
The Royal College of Physicians & Surgeons of Canada
Training & Employment Development, New Brunswick
Université de Moncton
Université de Montréal
University of Alberta
University of British Columbia (UBC)
University of Manitoba
University of Northern British Columbia (UNBC)

Catalogue no. 81-595-MIE2006041

University of Regina
University of Sas' tchewan
University of Toronto
Vancouver Community College
Wellington College of Remedial Massage Therapies
Western & Northern Health Human Resources Planning Forum
Western Regional School of Nursing
York University
Yukon Registered Nurses Association

Appendix 2

Health human resources conceptual framework



Source: O'Brien-Pallas, L. (2002) "Where to from here?" (Editorial and Discourse). *Canadian Journal of Nursing Research* 33, 4 (March, 2002): 3-14. Reproduced with permission.

Appendix 3

Priorities emerging from consultations

Priority topics

Information on health education programs and institutions offering these programs

Recruitment and retention/attrition

- Interest in health occupations
- Best recruitment practices
- Retention/attrition in health education programs
- Occupational retention/attrition post-graduation
- Geographical mobility

Capacity

- Seats
- Practical (clinical) training
- Educators and preceptors

Actual number of qualified applicants (versus number of applications)

Entrant and student characteristics

Graduate characteristics and outcomes

Prior learning assessment and recognition (PLAR), particularly for internationally-trained

Impact of changes in educational entry-to-practice requirements

Priority analysis

Gender

Aboriginal identity

Internationally-trained

Immigrants

Official languages

Rural/remote

Priority occupations

The following is a list of specific occupations mentioned as priority in our consultations. This list is not meant as an exhaustive list of all occupations which should be covered by our framework, but is meant to indicate those for which issues have already emerged.

Audiologists

Dental Therapists

Dentists

ECG Technicians

Health educators

Health Records Technicians

Home and Community Care workers

- Home Health Aides
- Community consultants
- Community health representatives
  - Community-based nurse

Licensed Practical Nurse

Maternal Care Workers

- Midwives

Medical Interpreters

Medical Laboratory Technologists

Medical Radiation Technologists

- Radiological Technologists
- Radiation Therapists
- Magnetic Resonance Technologists
- Nuclear Medicine Technologists

Mental Health workers

- Addiction workers and counselors
- Registered Psychiatric Nurses
- Social Workers

Nurse Practitioners

Occupational Therapists

Pharmacists

Pharmacy Technicians

Physicians

Physiotherapists

Catalogue no. 81-595-MIE2006041

Public Health workers

- Environmental Health Officers

Registered Nurses

Rehabilitation Assistants

Respiratory Therapists/Technologists

Senior leadership positions

- Health Service Executives

Sonographers

Speech Language Pathologists

Telehealth Technicians

Endnotes

1. This paper will refer to "occupations" rather than "professions." "Occupation" is a standard term used by Statistics Canada and can be used to describe all forms of work. Occupations are classified according to the National Occupational Classification – Statistics (NOC-S). "Profession" is a term that may imply professional registration or licensure. As such, it will not be used since some of the analyzed occupations do not require professional licensure or registration.
2. **Costs:**

   Tangible (staff time, educational materials, space and facilities, accreditation, liability, malpractice insurance, student-performed procedures, student waste, equipment repair, student costs: stipends, meals, parking, graduation, room and board, telephones)

   Intangible (stress, frustration, loss of esteem, responsibility burden, loss of instructor productivity, decreased staff efficiency)

   Benefits:

   Tangible (student recruitment opportunities, student contributions to workload, increased instructor productivity, decreased costs for new personnel)

   Intangible (upgrading/professional development opportunities for staff, improved staff performance, increased prestige for site, increased staff job satisfaction and morale, increased staff self-esteem, transferable skills or preceptors)

Catalogue no. 81-595-MIE2006041

Culture, Tourism and the Centre for Education Statistics

Research Papers

Cumulative Index

Statistics Canada's **Division of Culture, Tourism and the Centre for Education Statistics** develops surveys, provides statistics and conducts research and analysis relevant to current issues in its three areas of responsibility.

The **Culture Statistics Program** creates and disseminates timely and comprehensive information on the culture sector in Canada. The program manages a dozen regular census surveys and databanks to produce data that support policy decision and program management requirements. Issues include the economic impact of culture, the consumption of culture goods and services, government, personal and corporate spending on culture, the culture labour market, and international trade of culture goods and services. Analysis is also published in *Focus on Culture* (87-004-XIE, $8, http://www.statcan.ca:8096/bsolc/english/bsolc?catno=87-004-X).

The **Tourism Statistics Program** provides information on domestic and international tourism. The program covers the Canadian Travel Survey and the International Travel Survey. Together, these surveys shed light on the volume and characteristics of trips and travellers to, from and within Canada. Analysis is also published in *Travel-log* (87-003-XIE, $5, http://www.statcan.ca:8096/bsolc/english/bsolc?catno=87-003-X).

The **Centre for Education Statistics** develops and delivers a comprehensive program of pan-Canadian education statistics and analysis in order to support policy decisions and program management, and to ensure that accurate and relevant information concerning education is available to the Canadian public and to other educational stakeholders. The Centre conducts fifteen institutional and over ten household education surveys. Analysis is also published in *Education Matters* (81-004-XIE, free, http://www.statcan.ca:8096/bsolc/english/bsolc?catno=81-004-X), and in the *Analytical Studies Branch research paper series* (11F0019MIE, free, http://www.statcan.ca:8096/bsolc/english/bsolc?catno=11F0019M).

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2002001	Understanding the rural-urban reading gap
81-595-MIE2003002	Canadian education and training services abroad: the role of contracts funded by international financial institution
81-595-MIE2003003	Finding their way: a profile of young Canadian graduates
81-595-MIE2003004	Learning, earning and leaving – The relationship between working while in high school and dropping out
81-595-MIE2003005	Linking provincial student assessments with national and international assessments
81-595-MIE2003006	Who goes to post-secondary education and when: Pathways chosen by 20 year-olds
81-595-MIE2003007	Access, persistence and financing: First results from the Postsecondary Education Participation Survey (PEPS)
81-595-MIE2003008	The labour market impacts of adult education and training in Canada
81-595-MIE2003009	Issues in the design of Canada's Adult Education and Training Survey
81-595-MIE2003010	Planning and preparation: First results from the Survey of Approaches to Educational Planning (SAEP) 2002
81-595-MIE2003011	A new understanding of postsecondary education in Canada: A discussion paper
81-595-MIE2004012	Variation in literacy skills among Canadian provinces: Findings from the OECD PISA
81-595-MIE2004013	Salaries and salary scales of full-time teaching staff at Canadian universities, 2001-2002: final report
81-595-MIE2004014	In and out of high school: First results from the second cycle of the Youth in Transition Survey, 2002
81-595-MIE2004015	Working and Training: First Results of the 2003 Adult Education and Training Survey
81-595-MIE2004016	Class of 2000: Profile of Postsecondary Graduates and Student Debt
81-595-MIE2004017	Connectivity and ICT integration in Canadian elementary and secondary schools: First results from the Information and Communications Technologies in Schools Survey, 2003-2004

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2004018	Education and labour market pathways of young Canadians between age 20 and 22: an Overview
81-595-MIE2004019	Salaries and salary scales of full-time teaching staff at Canadian universities, 2003-2004
81-595-MIE2004020	Culture Goods Trade Estimates: Methodology and Technical Notes
81-595-MIE2004021	Canadian Framework for Culture Statistics
81-595-MIE2004022	Summary public school indicators for the provinces and territories, 1996-1997 to 2002-2003
81-595-MIE2004023	Economic Contribution of Culture in Canada
81-595-MIE2004024	Economic Contributions of the Culture Sector in Ontario
81-595-MIE2004025	Economic Contribution of the Culture Sector in Canada – A Provincial Perspective
81-595-MIE2004026	Who pursues postsecondary education, who leaves and why: Results from the Youth in Transition Survey
81-595-MIE2005027	Salaries and salary scales of full-time teaching staff at Canadian universities, 2002-2003: final report
81-595-MIE2005028	Canadian School Libraries and Teacher-Librarians: Results from the 2003/04 Information and Communications Technologies in Schools Survey
81-595-MIE2005029	Manitoba postsecondary graduates from the Class of 2000 : how did they fare?
81-595-MIE2005030	Salaries and salary scales of full-time teaching staff at Canadian universities, 2004-2005: preliminary report
81-595-MIE2005031	Salaries and salary scales of full-time teaching staff at Canadian universities, 2003-2004: final report
81-595-MIE2005032	Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients
81-595-MIE2005033	The Education Services Industry in Canada
81-595-MIE2005034	Connectivity and ICT Integration in First Nations Schools: Results from the Information and Communications Technologies in Schools Survey, 2003/04
81-595-MIE2005035	Registered Apprentices: A Class Ten Years Later

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-MIE2005036	Participation in Postsecondary Education: Evidence from the Survey of Labour Income Dynamics
81-595-MIE2006037	Economic Contribution of the Culture sector to Canada's Provinces
81-595-MIE2006038	Profile of Selected Culture Industries in Ontario
81-595-MIE2006039	Factors Affecting the Repayment of Student Loans
81-595-MIE2006040	Culture Goods Trade Data User Guide
81-595-MIE2006041	Health Human Resources and Education: Outlining Information Needs